LG

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COLOR MONITOR
SERVICE MANUAL

CHASSIS NO. : CA-130

FACTORY MODEL: F900BJ

MODEL: FLATRON F900B (F900BJ-AL**E)

(   ) **Same model for Service

CAUTION

BEFORE SERVICING THE UNIT,
READ THE **SAFETY PRECAUTIONS** IN THIS MANUAL.



CONTENTS

SPECIFICATIONS

1. PICTURE TUBE

Size : 19 inch (Flat Slot Mask)
Deflection Angle : 90°
Neck Diameter : 29.1 mm
Strip Pitch : 0.24 mm
Diagonal Size : 457.5 mm
View Size : 366.0 x 274.5 mm
Face Treatment : AR-ASC (Anti-Reflective and Anti-Static Coating)

2. SIGNAL

2-1. Horizontal & Vertical Sync
1) Input Voltage Level : Low= ≤0.8V, High= ≥2.1V
2) Sync Polarity : Positive or Negative

2-2. Video Input Signal
1) Voltage Level : 0~0.7 Vp-p
a) Color 0, 0 : 0 Vp-p
b) Color 7, 0 : 0.467 Vp-p
c) Color 15, 0 : 0.7 Vp-p
2) Input Impedance : 75 Ω
3) Video Color : R, G, B Analog
4) Signal Format : Refer to the Timing Chart

2-3. Signal Connector
15 Pin D-Sub Connector

2-4. Scanning Frequency
Horizontal : 30~98 kHz
Vertical : 50~160 Hz

3. POWER SUPPLY

3-1. Power Range
AC 100~240V, 50/60HZ, 2.5A Max
AC 200~240V, 50Hz, 1.5A Max.(PFC version)

3-2. Power Consumption

MODE	VIDEO	POWER CONSUMPTION	LED COLOR
MAX	Yes	less than 120W (140W)	GREEN
STAND-BY	No	less than 8W (30W)	AMBER
SUSPEND	No	less than 8W (30W)	AMBER
POWER SWITCH OFF	-	less than 1W (20W)	-

4. DISPLAY AREA

4-1. Active Video Area :
• Max Image Size - 366.0 x 274.5mm (14.40" x 10.80")
• Preset Image Size - 350 x 262 mm (13.78" x 10.31")

4-2. Display Color : Full Colors

4-3. Display Resolution : 1600 Dots x 1200Lines/75Hz

4-4. Video Bandwidth : 203MHz

5. ENVIRONMENT

5-1. Operating Temperature: 0°C~40°C (32°F~103°F) (Ambient)
5-2. Relative Humidity : 10%~90% (Non-condensing)
5-3. Altitude : 10,000 ft

6. DIMENSIONS (with TILT/SWIVEL)

Width : 466.6 mm (18.37")
Depth : 472.5 mm (18.60")
Height : 474 mm (18.66")

7. WEIGHT (with TILT/SWIVEL)

Net Weight : 23.2 kg (51.82 lbs)
Gross Weight : 26.6 kg (59.52 lbs)

8. USB Specifications

USB Standard : Rev. 1.0 complied self-powered hub
Downstream power supply : 500mA for each (MAX)
Communication speed : 12 Mbps (Full), 1.5 Mbps (Low)
USB port : 1 Upstream port
2 Downstream ports

SAFETY PRECAUTIONS

SAFETY-RELATED COMPONENT WARNING!

There are special components used in this color monitor which are important for safety. ***These parts are marked ⚠ on the schematic diagram and the replacement parts list.*** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent X-radiation, shock, fire, or other hazards. Do not modify the original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

CAUTION: No modification of any circuit should be attempted.
Service work should be performed only after you are thoroughly familiar with all of the following safety checks and servicing guidelines.

SAFETY CHECK

Care should be taken while servicing this color monitor because of the high voltage used in the deflection circuits. These voltages are exposed in such areas as the associated flyback and yoke circuits.

FIRE & SHOCK HAZARD

An isolation transformer must be inserted between the color monitor and AC power line before servicing the chassis.

- In servicing, attention must be paid to the original lead dress specially in the high voltage circuit. If a short circuit is found, replace all parts which have been overheated as a result of the short circuit.
- All the protective devices must be reinstalled per the original design.
- Soldering must be inspected for the cold solder joints, frayed leads, damaged insulation, solder splashes, or the sharp points. Be sure to remove all foreign materials.

IMPLOSION PROTECTION

All used display tubes are equipped with an integral implosion protection system, but care should be taken to avoid damage and scratching during installation. Use only same type display tubes.

X-RADIATION

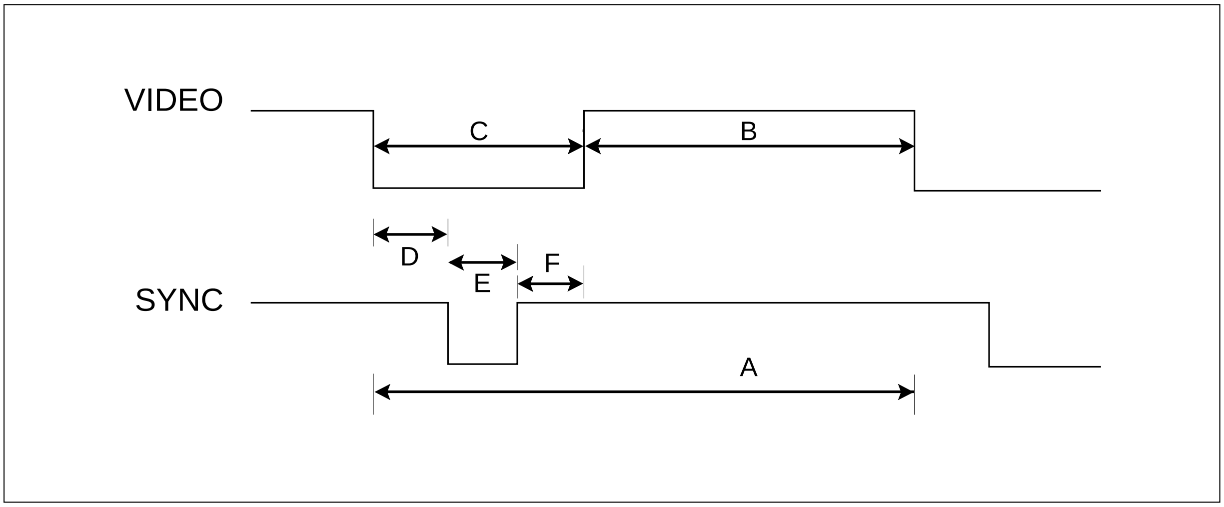
The only potential source of X-radiation is the picture tube. However, when the high voltage circuitry is operating properly there is no possibility of an X-radiation problem. The basic precaution which must be exercised is keep the high voltage at the factory recommended level; the normal high voltage is about 27kV. The following steps describe how to measure the high voltage and how to prevent X-radiation.

Note : It is important to use an accurate high voltage meter calibrated periodically.

- To measure the high voltage, use a high impedance high voltage meter, connect (–) to chassis and (+) to the CDT anode cap.
- Set the brightness control to maximum point at full white pattern.
- Measure the high voltage. The high voltage meter should be indicated at the factory recommended level.
- If the meter indication exceeds the maximum level, immediate service is required to prevent the possibility of premature component failure.
- To prevent X-radiation possibility, it is essential to use the specified picture tube.

CAUTION:
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

TIMING CHART



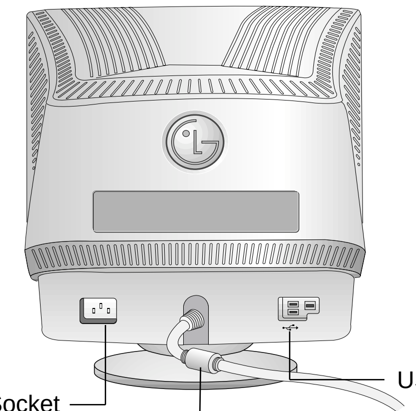
MODE			MARK	MODE 1	MODE 2	MODE 3	MODE 4	MODE 5
				FACTORY PRESET MODE				
				VESA				
HORIZONTAL	Sync Polarity			–	+	+	+	+
	Frequency	kHz		43.269	53.674	68.677	91.146	93.750
	Total Period	µs	A	23.112	18.631	14.561	10.971	10.666
	Video Active Time	µs	B	17.778	14.222	10.836	8.127	7.901
	Blanking Time	µs	C	5.334	4.409	3.725	2.844	2.765
	Front Porch	µs	D	1.556	0.569	0.508	0.406	0.316
	Sync Duration	µs	E	1.556	1.138	1.016	1.016	0.948
	Back Porch	µs	F	2.222	2.702	2.201	1.422	1.501
VERTICAL	Sync Polarity			–	+	+	+	+
	Frequency	Hz		85.008	85.061	84.997	85.024	75.000
	Total Period	ms	A	11.763	11.756	11.765	11.762	13.333
	Video Active Time	ms	B	11.093	11.178	11.183	11.235	12.800
	Blanking Time	ms	C	0.670	0.578	0.582	0.527	0.533
	Front Porch	ms	D	0.023	0.019	0.015	0.011	0.011
	Sync Duration	ms	E	0.069	0.056	0.044	0.033	0.032
	Back Porch	ms	F	0.578	0.503	0.523	0.483	0.490
Resolution				**640 X 480 85Hz**	**800 X 600 85Hz**	**1024 X 768 85Hz**	**1280 X 1024 85Hz**	**1600 X 1200 75Hz**
Recall				Yes	Yes	Yes	Yes	Yes

OPERATING INSTRUCTIONS

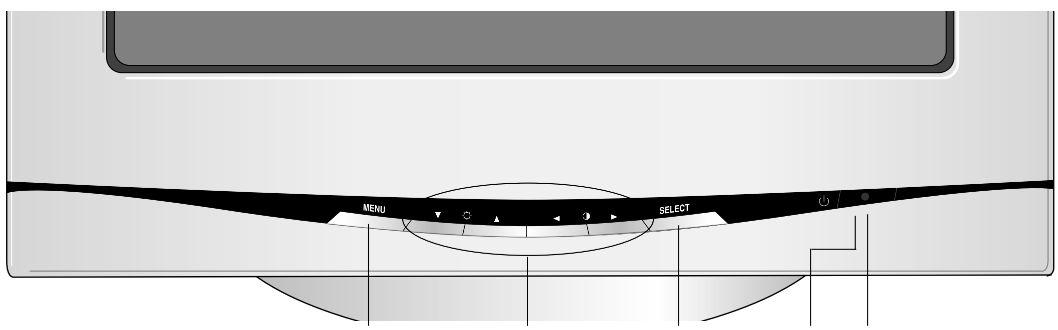
FRONT VIEW



REAR VIEW



Front Control Panel

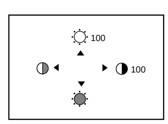


1. **Power Button**
   This button is used to turn the monitor ON and OFF.

2. **Power Indicator**
   This Indicator lights up green when the monitor operates normally. If the monitor is in stand-by, suspend or DPMS off mode, this indicator color changes to amber.

3. **MENU (or OSD) Button**
   Use this button to enter or exit the on screen display.

4. **▲▼/◀ ▶ Button**
   Use these buttons to choose or adjust items in the on screen display.



◀ ▶Button Bring up Contrast adjustment

▲ ▼Button Bring up Brightness adjustment

The Contrast and Brightness functions are also available in the On Screen Display (OSD) menu.

5. **SELECT Button**
   Use this button to enter a selection in the on screen display.

Universal Serial Bus

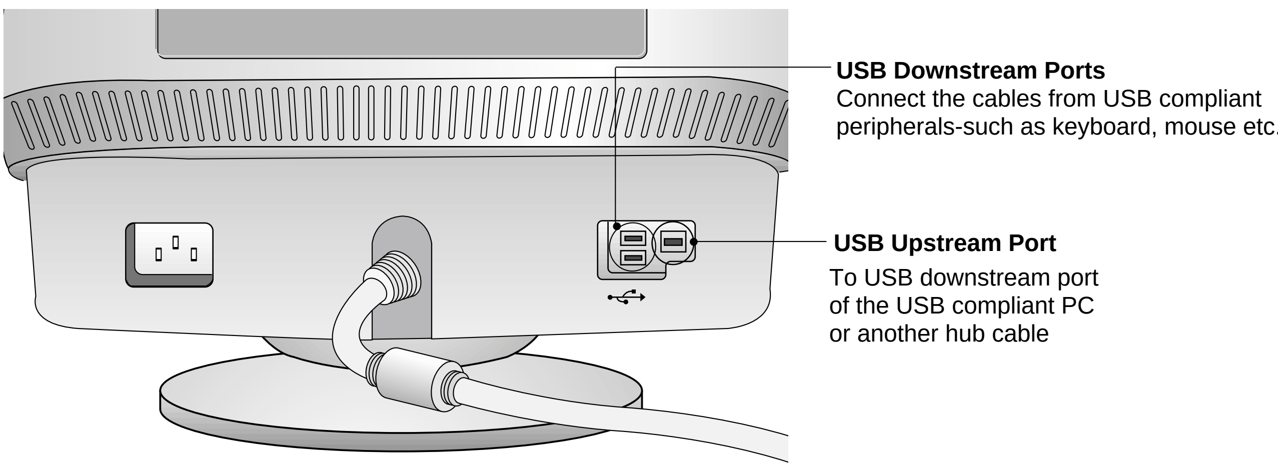
Making use of USB (Universal Serial Bus)*

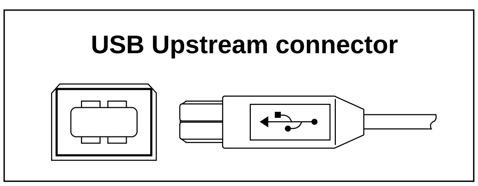
USB(Universal Serial Bus) is an innovation in connecting your different desktop peripherals conveniently to your computer. By using the USB, you will be able to connect your mouse, keyboard and other peripherals to your monitor instead of having to connect them to your computer. This will give you greater flexibility in setting up your system. USB allows you to connect chain up to 120 devices on a single USB port, and you can “hot” plug (attach them while the computer is running) or unplug them while maintaining Plug and Plug auto detection and configuration. This monitor has an integrated Bus-powered USB hub, allowing up to 2 other USB devices to be attached it.

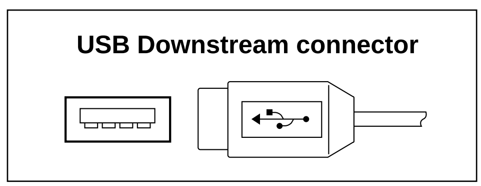
USB connection (Option)

(1) Connect the upstream port of the monitor to the downstream port of the USB compliant PC or another hub using the USB cable.
(2) Connect the USB compliant peripherals to the downstream ports the monitor.

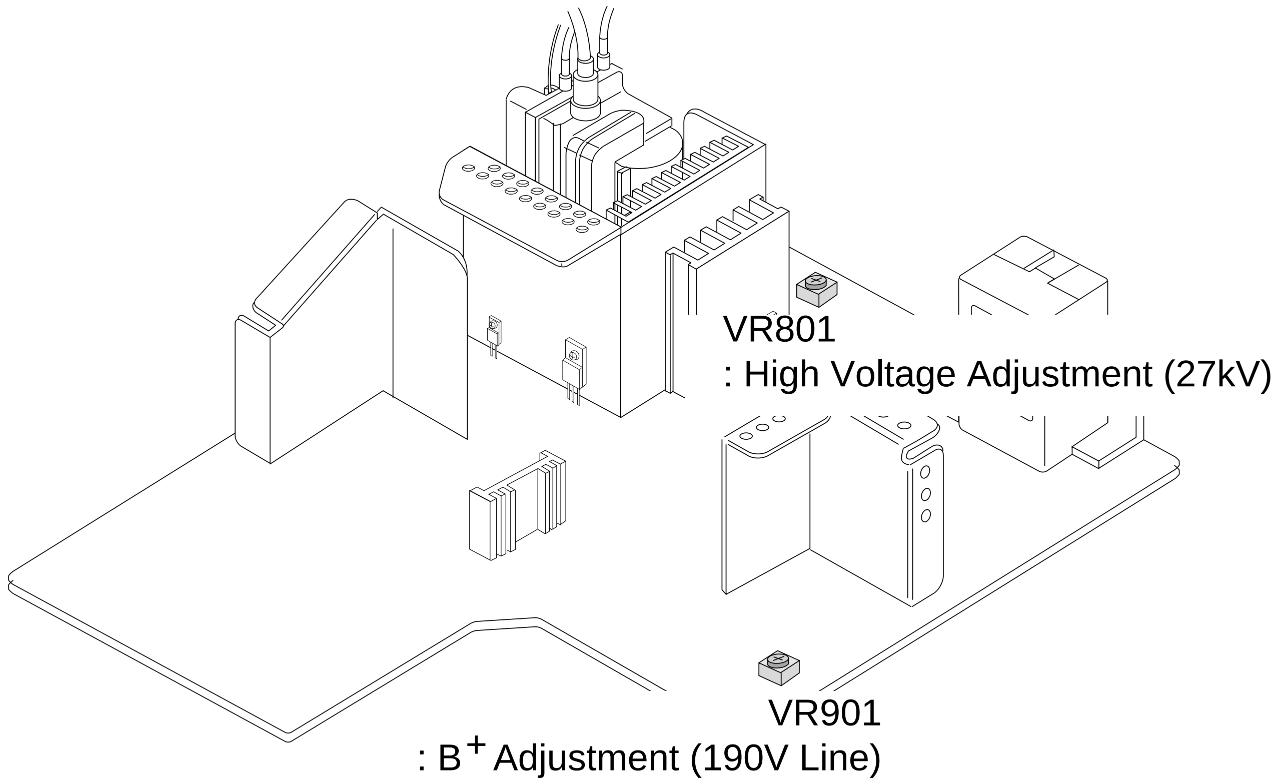
*USB(Universal Serial Bus) is supported WINDOWS98 and Higher.



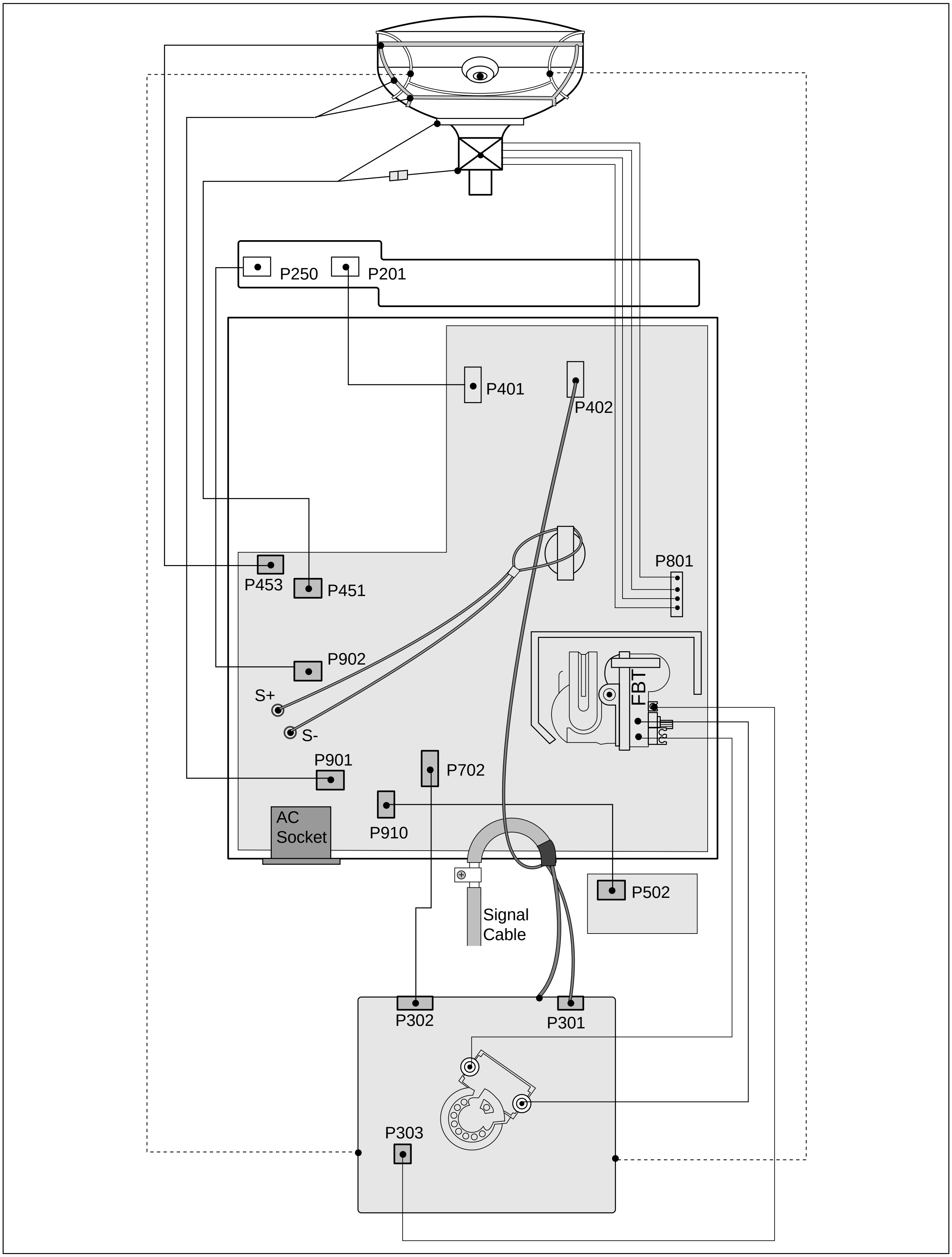




CONTROL LOCATIONS



WIRING DIAGRAM



DISASSEMBLY

1. TILT/SWIVEL & BACK COVER REMOVAL

1) Set the monitor face downward.
2) Carefully remove the Tilt/Swivel by pulling it upward.
3) Remove two screws (a).
4) Pressing the latch (b), Back cover by pushing it upward. (See Figure. 1)
5) Release the latch (c). (See Figure. 2 and Tip Spec.)
6) Slide the Back Cover away from the Front Cabinet of the monitor.

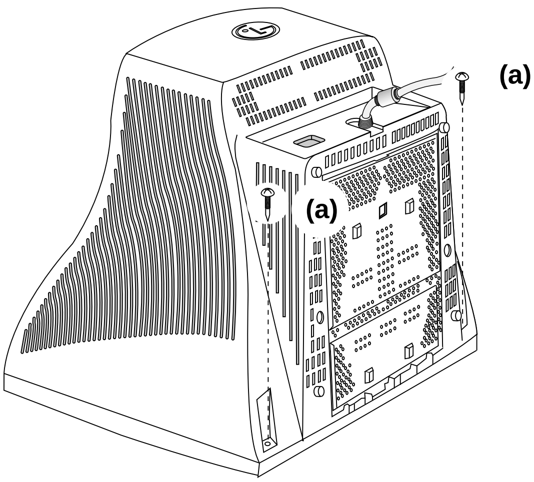


Figure. 1

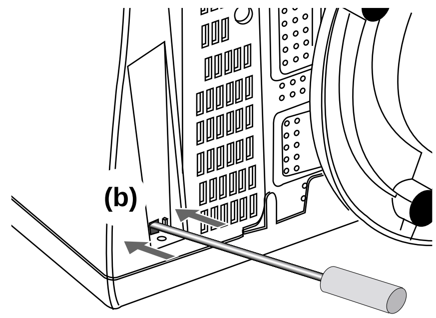
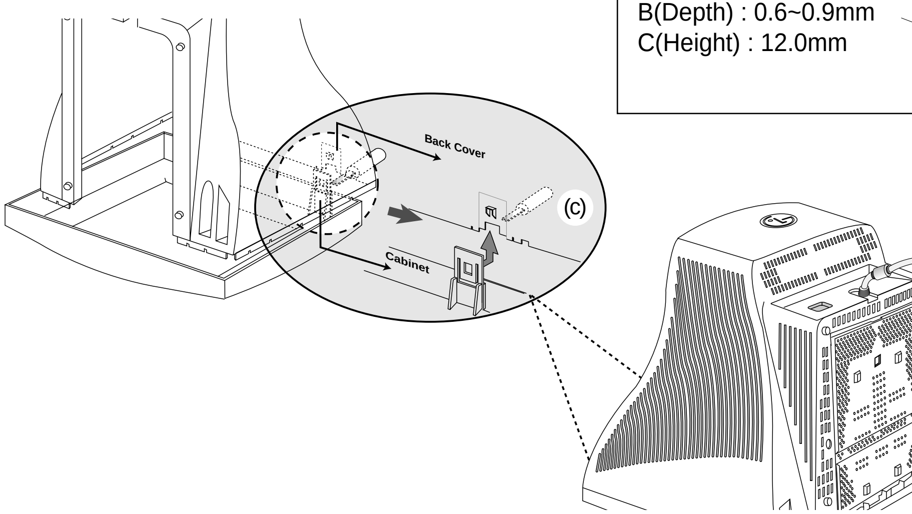
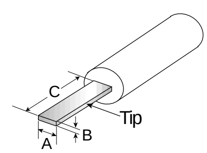


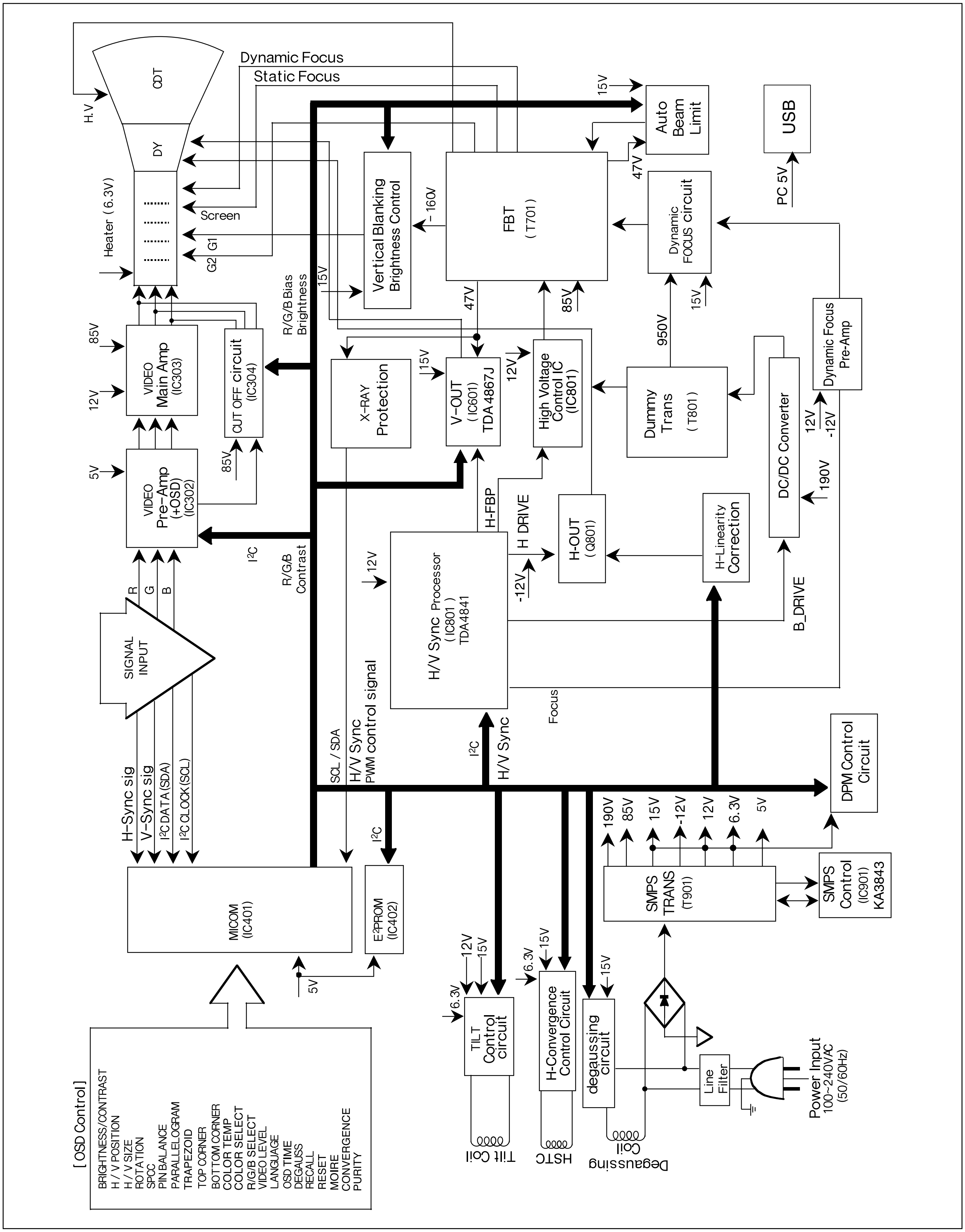
Figure. 2



Tip Spec.
A(Width) : 5.0~15.0mm
B(Depth) : 0.6~0.9mm
C(Height) : 12.0mm



BLOCK DIAGRAM



DESCRIPTION OF BLOCK DIAGRAM

1. Line Filter & Associated Circuit.

This is used for suppressing noise of power input line flowing into the monitor and/or some noise generated in this monitor flowing out through the power input line.
That is to say, this circuit prevents interference between the monitor and other electric appliances.

2. Degauss Circuit & Coil.

The degauss circuit consists of the degaussing coil, the PTC (Positive Temperature Coefficient) thermistor (TH901), and the relay (RL901). This circuit eliminates abnormal color of the screen automatically by degaussing the slot mask in the CDT when turn on the power switch.
When you need to degauss while using the monitor, select DEGAUSS on the OSD menu.

3. SMPS (Switching Mode Power Supply).

This circuit works with power of 100~240V or 200~240V (50/60Hz) specially for PFC version.

The operation procedure is as follows:

1) AC input voltage is rectified and smoothed by the bridge diode (D901) and the capacitor (C905).
2) The rectified voltage (DC voltage) is applied to the primary coil of the transformer (T901).
3) The control IC (IC901) generates switching pulse to turn on and off the primary coil of the transformer (T901) repeatedly.
4) Depending on the turn ratio of the transformer, the secondary voltages appear at the secondary coil of the transformer (T901).
5) These secondary voltages are rectified by each diode (D924, D926, D923, D929, D922, D921, D920) and operate the other circuits. (Deflection, Video Amplifier, etc.)

4. Display Power Management Circuit.

This circuit control power consumption of the monitor by detecting H and V sync signal. There are stand-by and suspend mode. When no horizontal or vertical sync signal input, the circuit consists of Q913, Q915 and IC401 control signal becomes stand-by and suspend mode. It's power consumption is below 8W. When no horizontal and vertical sync signal input, it's power consumption is below 1W.

5. X-ray Protection.

This circuit detects the rectified DC voltage comes from the FBT pin 4. If the high voltage of the FBT reaches up to about 30kV (abnormal state), H.V control (IC802) detects. It stops B^+ voltage supplied to the FBT (T701), and high voltage is not be generated, (In the normal state, the high voltage is about 26kV.)

6. Micom(Microprocessor) Circuit.

The operating procedure of Micom (Microprocessor) and its associated circuit is as follows:

1) H and V sync signal is supplied from Signal Cable to the Micom (IC401).
2) The Micom (IC401) distinguishes polarity and frequency of H and V sync.
3) The Micom controls each OSD function signals. (H-size, H-position, V-size, etc.)
4) The controlled data of each mode is stored in IC402. User can adjust screen condition by each OSD function. The data of the adjust screen condition is stored automatically.

7. Horizontal and Vertical Synchronous Processor.

This circuit generates the horizontal drive pulse and the vertical drive pulse by taking sync-signal from Signal Cable. This circuit consists of the TDA4841(IC801) and the associated circuit.

8. Oscillating Circuit for D/D Converter.

This circuit generates the pulse wave which has the horizontal period by taking the output of the TDA4841(IC801).

9. D/D (DC to DC) Converter.

This circuit supplies DC voltage to the horizontal deflection output circuit by decreasing DC 192V which is the secondary voltage of the SMPS in accordance with the input horizontal sync signal.

10. D/D Drive & Convert Circuit.

This circuit is used for supplying B^+ voltage to horizontal deflection output transistor (Q801).

11. Horizontal Deflection Output Circuit.

This circuit makes the horizontal deflection by supplying the saw-tooth current to the horizontal deflection yoke.

12. High Voltage Output & FBT (Flyback Transformer).

The high voltage output circuit is used for generating pulse wave to the primary coil of the FBT (Flyback Transformer (T701)). A boosted voltage (about 27kV) appears at the secondary of the FBT and it is supplied to the anode of the CDT.
And there are another output voltages such as the dynamic focus voltage.

13. H-Linearity Correction Circuit.

This circuit corrects the horizontal linearity for each horizontal sync frequency.

14. Vertical Output Circuit.

This circuit takes the vertical wave from the TDA4841(IC801) and performs the vertical deflection by supplying the saw-tooth wave current from the TDA4867J (IC601) to the vertical deflection yoke.

15. Dynamic Focus Output Circuit.

This circuit takes H and V parabola wave from the TDA4841(IC801), and amplifies these waves to offer to the FBT (T701).

16. H & V Blanking and Brightness Control.

This circuit eliminates the retrace line by supplying a negative pulse to the G1 of the CDT.

17. Image Rotation (Tilt) Circuit.

This circuit corrects the tilt of the screen by supplying the image rotation signal to the tilt coil which is attached to the CDT near the deflection.

18. Static Convergence Control Circuit.

This circuit corrects the convergence of the screen by supplying the convergence signal to the 4H (STC) coil which is attached to the CDT near the deflection.

19. Moire Reduction Circuit

This circuit reduce interference between the periodical display pattern and the CDT's slot (or dot).
The positions of every other one dot video signal beams (red, green, and blue beam) are shifted finely, thus reducing interference.

20. OSD Circuit.

This circuit is used for performing the OSD (On-Screen- Display) function.
When a user selects the OSD Select/Adjustment control, the adjustment status displays on the screen.

21. Video Pre-Amp Circuit.

This circuit amplifies the analog video signal from 0-0.7V to 0-4V. This circuit is operated by taking the clamp, R, G, B drives, and contrast signals from the Micom (IC401).

22. Video Output Amp Circuit.

This circuit amplifies the video signal which comes from the video pre-amp circuit and amplified video signal is applied to the CDT cathode.

ADJUSTMENT

GENERAL INFORMATION

All adjustment are thoroughly checked and corrected when the monitor leaves the factory, but sometimes several adjustments may be required.
Adjustment should be following procedure and after warming up for a minimum of 30 minutes.

- Alignment appliances and tools.
  - IBM compatible PC.
  - Programmable Signal Generator. (eg. VG-819 made by Astrodesign Co.)
  - EPROM or EEPROM with saved each mode data.
  - Alignment Adaptor and Software.
  - Digital Voltmeter.
  - White Balance Meter.
  - Luminance Meter.
  - High-voltage Meter.

AUTOMATIC AND MANUAL DEGAUSSING

The degaussing coil is mounted around the CDT so that automatic degaussing when turn on the monitor. But a monitor is moved or faced in a different direction, become poor color purity cause of CDT magnetized, then press DEGAUSSING on the OSD menu.

ADJUSTMENT PROCEDURE & METHOD

- Install the cable for adjustment such as Figure 1and run the alignment program on the DOS for IBM compatible PC.
- Set external Brightness and Contrast volume to max position.

1. Adjustment for B^+ Voltage.

1) Display cross hatch pattern at Mode 4.
2) Adjust C905 (+) voltage to 190V ± 0.5V with **VR901**.

2. Adjustment for High-Voltage.

1) Display cross hatch pattern at Mode 4.
2) Adjust CDT Anode voltage to 27kV ± 0.2kV with **VR801**.

3. Adjustment for Horizontal Raster Center.

1) Display cross hatch pattern at Mode 4.
2) Adjust the Back Raster should be center of the screen with SW801.

4. Adjustment for Factory Mode (Preset Mode).

1) Display cross hatch pattern at Mode All.
2) Run alignment program for F900BJ on the IBM compatible PC.
3) EEPROM → ALL CLEAR → Y(Yes) command.
   <Caution> *Do not run this procedure unless the EEPROM is changed. All data in EEPROM (mode data and color data) will be erased.*
4) COMMAND → PRESET START → Y(Yes) command.
5) DIST. ADJ. → FOS. ADJ command.
6) Adjust H-POSITION as arrow keys to center of the screen.
7) Adjust H-SIZE as arrow keys to 350 ± 2mm.
8) Adjust V-POSITION as arrow keys to center of the screen.
9) Adjust V-SIZE as arrow keys to 262 ± 2mm.
10) Adjust TRAPEZOID as arrow keys to be the best condition.
11) Adjust SIDE PINCUSHON as arrow keys to be the best condition.
12) Adjust TILT as arrow keys to be the best condition.
13) Display cross hatch pattern at Mode 4.
14) DIST. ADJ. → BALANCE DATA command.
15) Adjust balance of Pin-Balance as arrow keys to be the best condition.
16) Adjust parallelogram as arrow keys to be the best condition.
17) Save of the Mode.
18) Save of the System.
19) Display from Mode 4 and repeat above from number 6) to 16).
20) COMMAND → PRESET EXIT → Y (Yes) command.

5. Adjustment for White Balance and Luminance.

1) Set the White Balance Meter.
2) Press the DEGAUSSING on the OSD menu for demagnetization of the CDT.
3) Display color 0,0 pattern at Mode 4.
4) COMMAND → PRESET START → Y(Yes) command.
5) Set Bightness and Contrast to max position.
6) COLOR ADJ. → LUMINANCE command of the alignment program.
7) COLOR ADJ. → BIAS ADJ. command of the alignment program.
8) Check whether blue color or not at R-BIAS and G-BIAS to min position, Sub-Brightness to 90 (5A(h))position, B-BIAS to 70(46(h))position. If it's not blue color, the monitor must repair.
9) Adjust Screen control on the FBT to 0.15 ± 0.05FL of the raster luminance.
10) Adjust R-BIAS and G-BIAS command to x=0.283 ± 0.006 and y=0.298 ± 0.006 on the White Balance Meter with PC arrow keys.

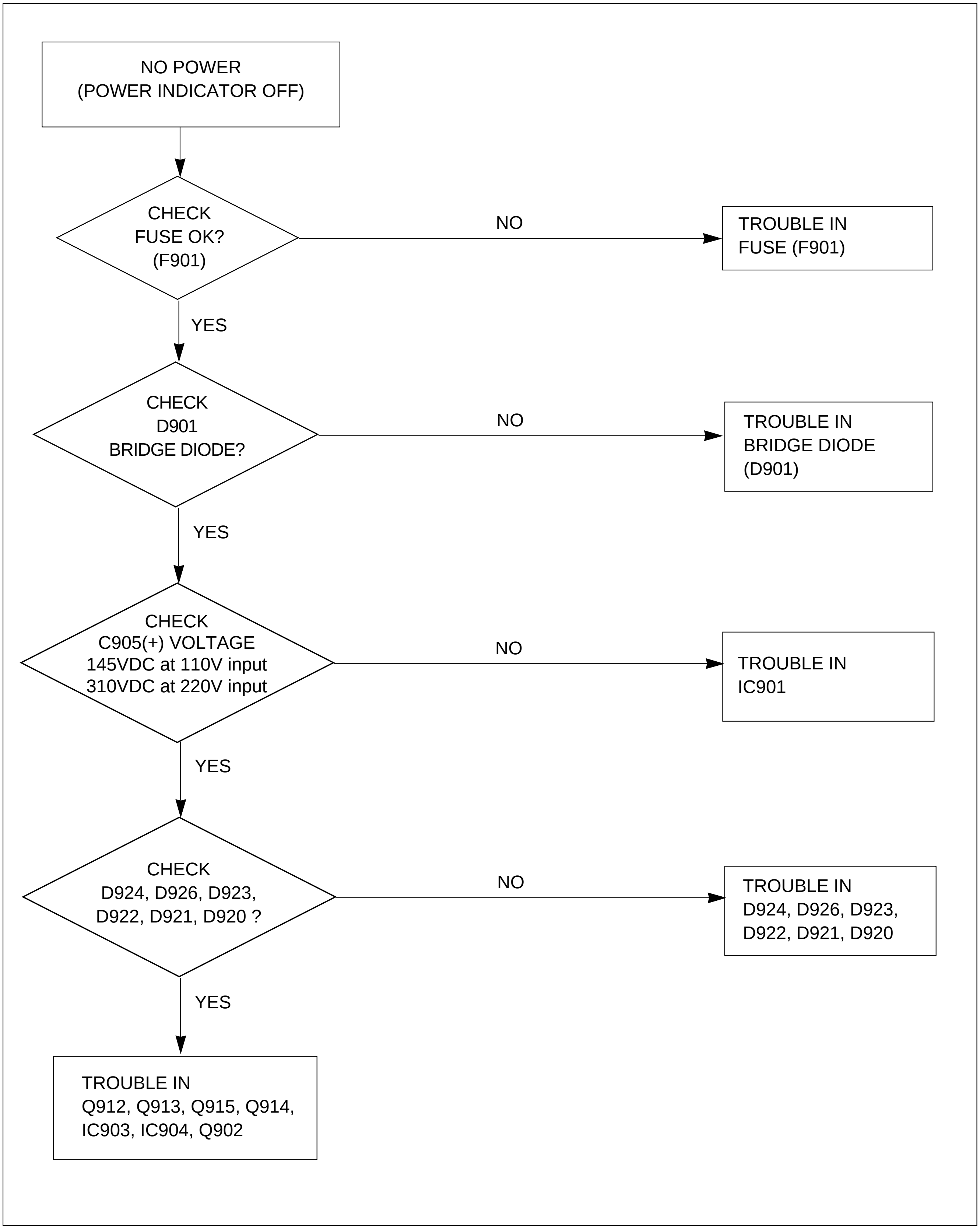
11) Display color 15,0 Full White(70x70mm) at mode 4.
12) DRIVE ADJ command.
13) Set B-DRIVE to 94(5E(h)) at DRIVE of the alignment program.
14) Adjust R-DRIVE and G-DRIVE command to white balance x=0.283 ± 0.003 and y=0.298 ± 0.003 on the White Balance Meter with PC arrow keys.
15) Adjust SUB-CONTRAST command to 40±1FL of the raster luminance.
15) Display color 15,0 full white patten at Mode 4.
16) COLOR ADJ. → LUMINANCE → ABL command.
17) Adjust ABL to 30 ± 1FL of the luminance.
18) Exit from the program.

6. Adjustment for Focus.

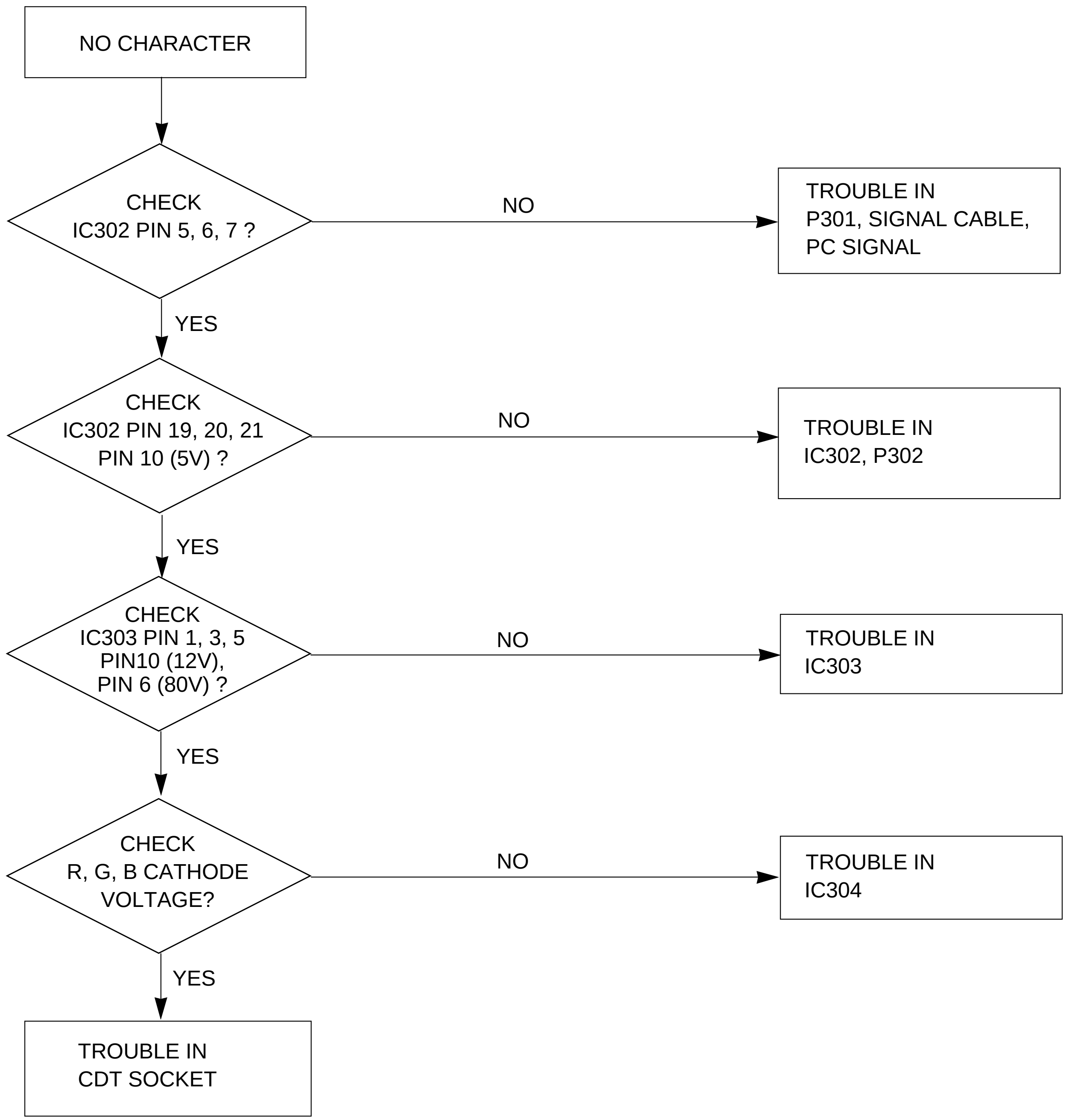
1) Display H character in full screen at Mode 4.
2) Adjust two Focus control on the FBT that focus should be the best condition.

TROUBLESHOOTING GUIDE

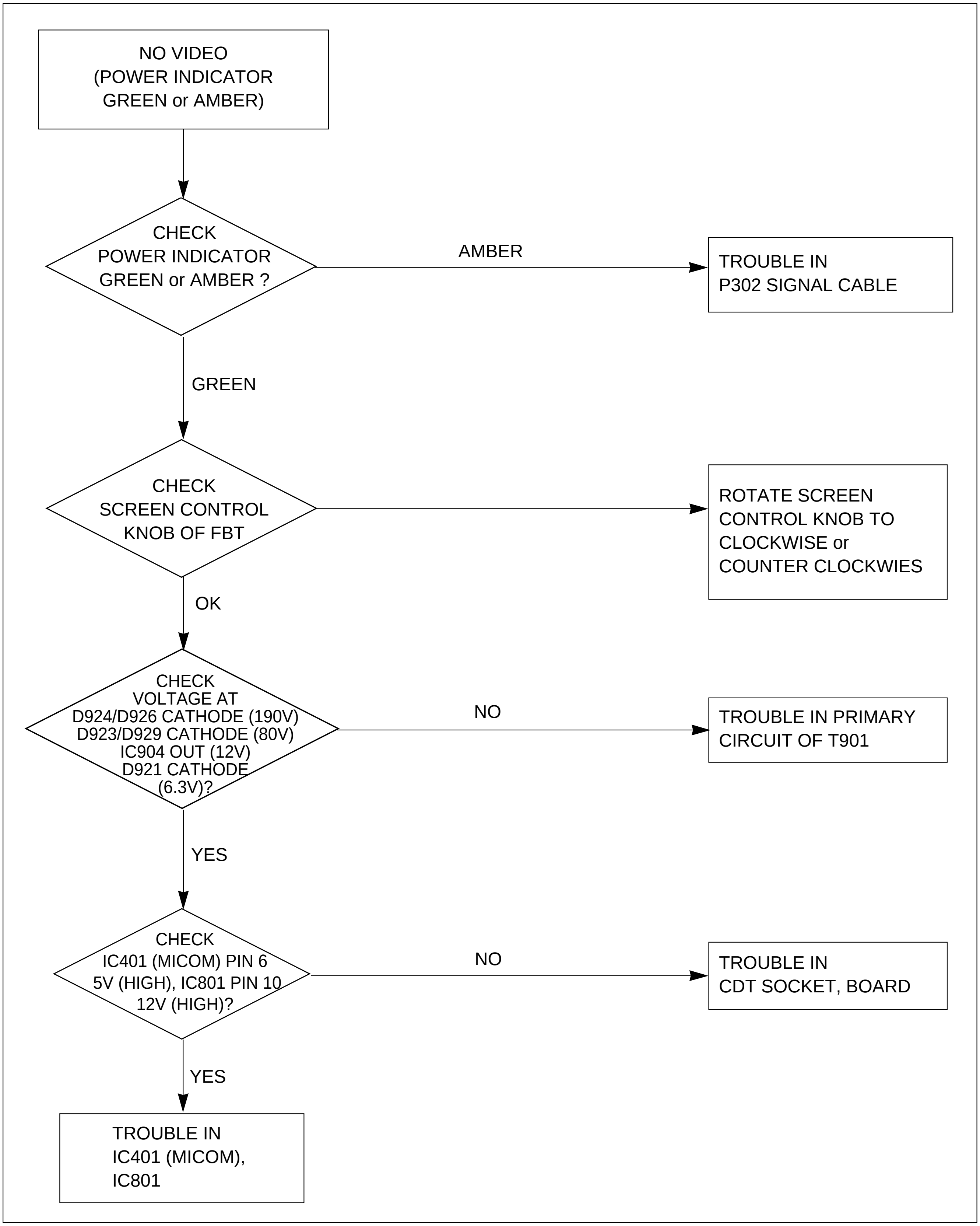
1. NO POWER



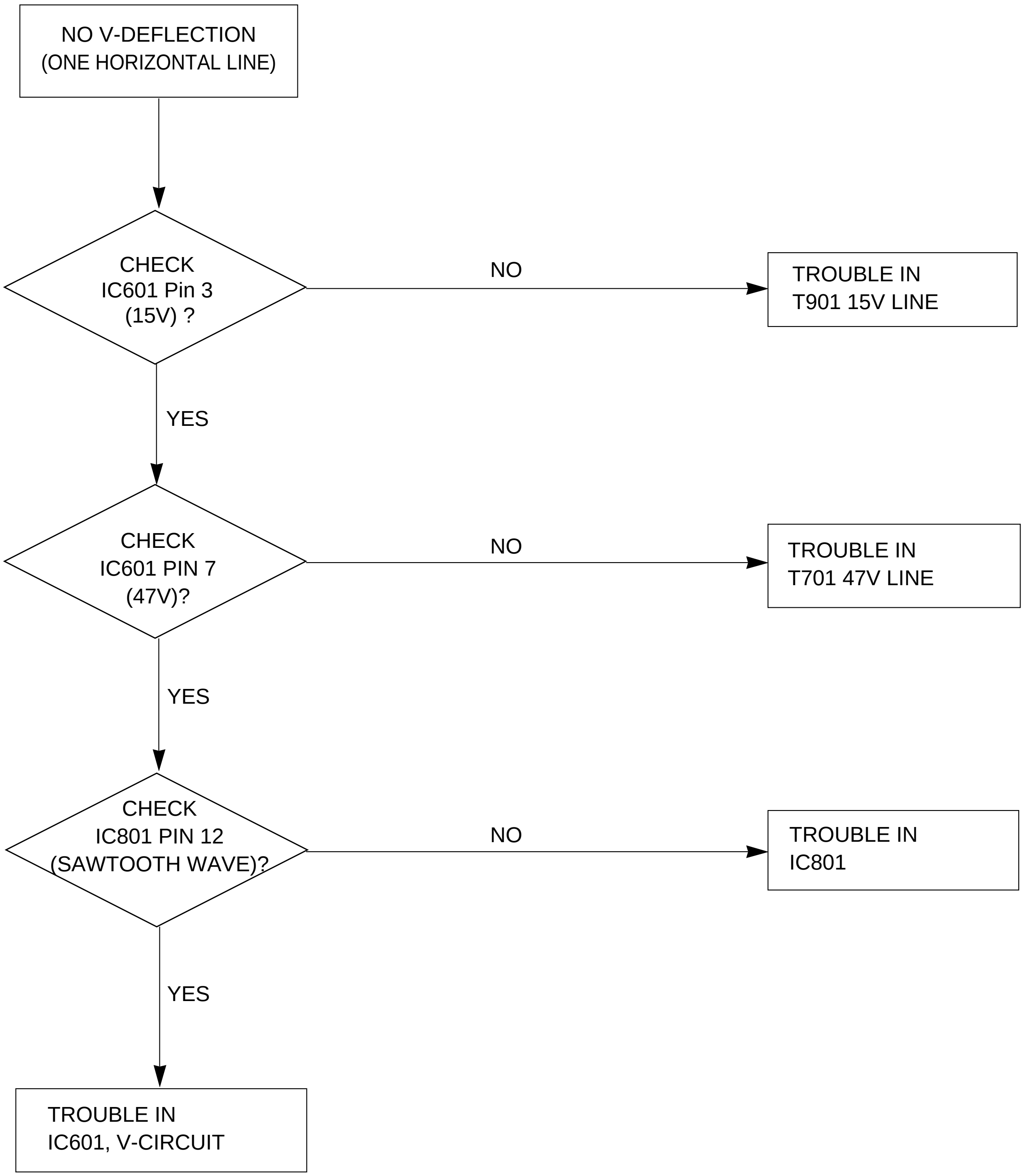
2. NO CHARACTER



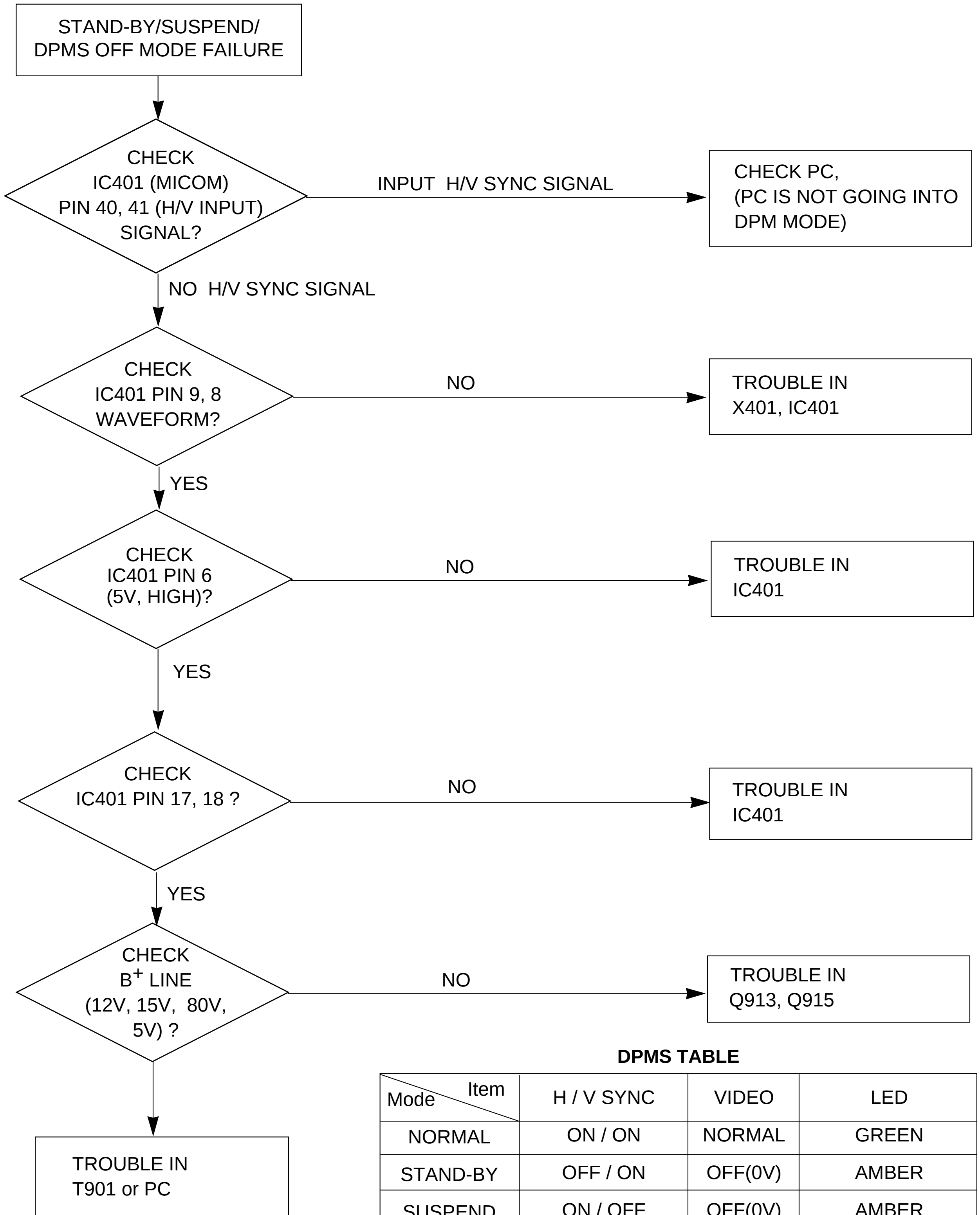
3. NO RASTER


NO VIDEO
(POWER INDICATOR
GREEN or AMBER)
CHECK
POWER INDICATOR
GREEN or AMBER ?
AMBER
TROUBLE IN
P302 SIGNAL CABLE
GREEN
CHECK
SCREEN CONTROL
KNOB OF FBT
ROTATE SCREEN
CONTROL KNOB TO
CLOCKWISE or
COUNTER CLOCKWIES
OK
CHECK
VOLTAGE AT
D924/D926 CATHODE (190V)
D923/D929 CATHODE (80V)
IC904 OUT (12V)
D921 CATHODE
(6.3V)?
NO
TROUBLE IN PRIMARY
CIRCUIT OF T901
YES
CHECK
IC401 (MICOM) PIN 6
5V (HIGH), IC801 PIN 10
12V (HIGH)?
NO
TROUBLE IN
CDT SOCKET, BOARD
YES
TROUBLE IN
IC401 (MICOM),
IC801

4. NO VERTICAL DEFLECTION



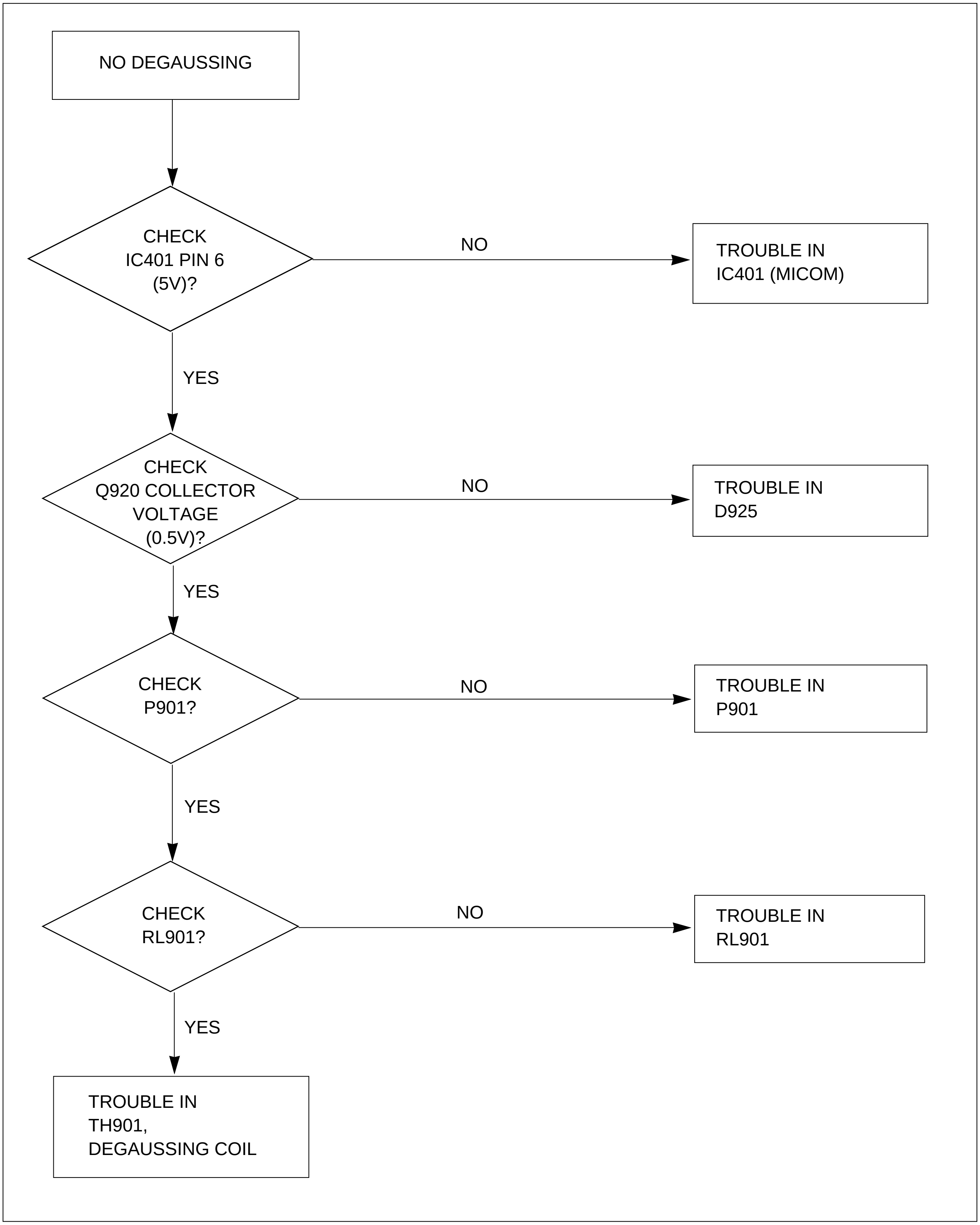
5. TROUBLE IN DPM



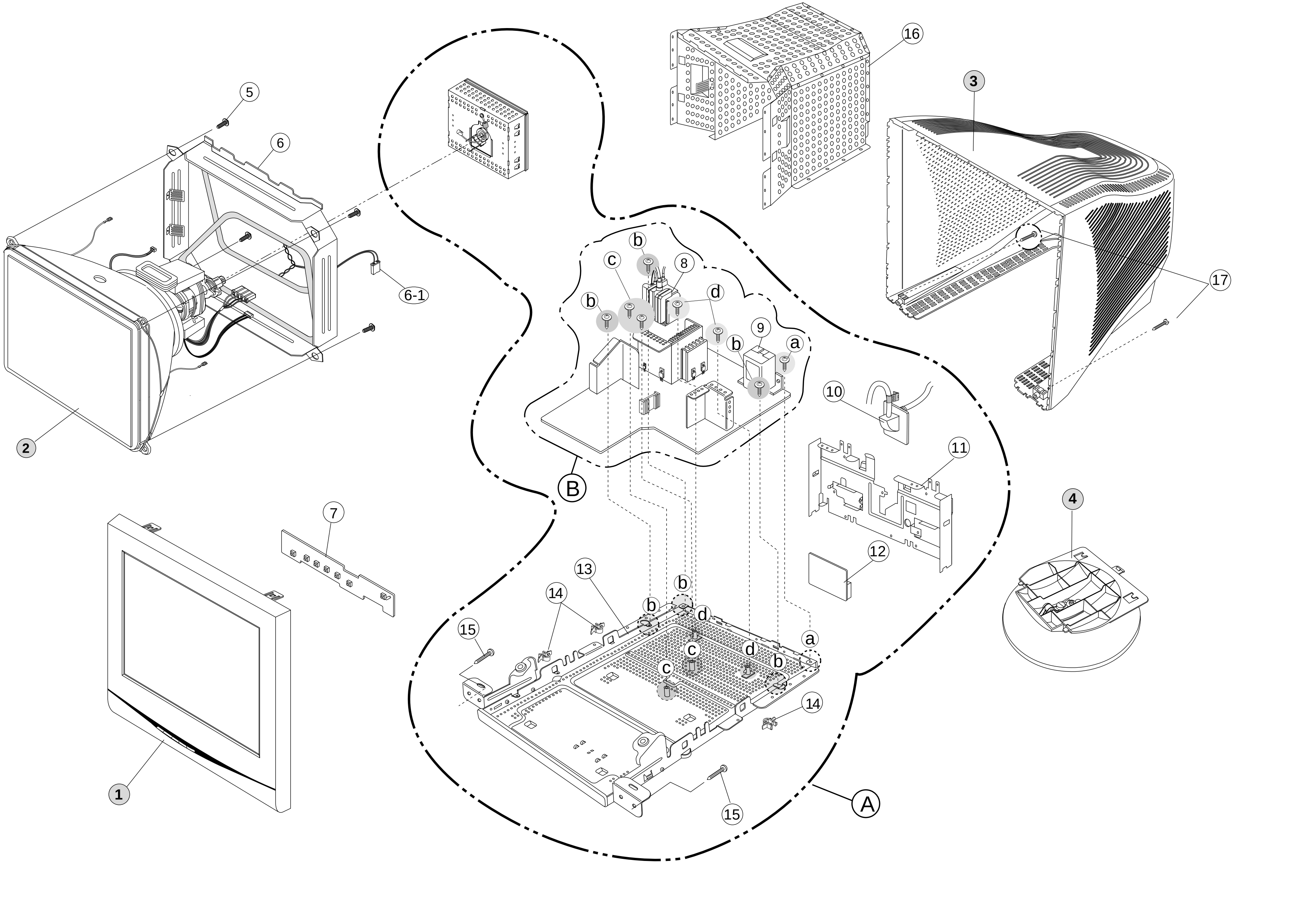
DPMS TABLE

Mode \ Item	H / V SYNC	VIDEO	LED
NORMAL	ON / ON	NORMAL	GREEN
STAND-BY	OFF / ON	OFF(0V)	AMBER
SUSPEND	ON / OFF	OFF(0V)	AMBER
OFF	OFF / OFF	OFF(0V)	AMBER

6. NO DEGAUSSING



EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Ref. No.	Part No.	Description
1	3091TKC095A	CABINET ASSEMBLY, F900BJ BRAND TKC075A LGC (ER04) B/A SW
2	6318L19008A	CDT(CIRC), M46QDG423X11NDDD LG-PHILIPS 107KHZ 29.1MM FLATRON TCO V2
3	3809TKC045D	BACK COVER ASSEMBLY, FB990G 3808TKC044 PFC/TCO99 **- For Euope**
	3809TKC045A	BACK COVER ASSEMBLY, FB990G 3808TKC044 BRAND-8C358 **- For U.S.A, Canada, Israel, Saudi**
4	3043TKK101A	TILT SWIVEL ASSEMBLY, FB990G/FB910G TKB059/TKT064 2ND FLAT BRAND
5	339-002J	SCREW ASSY, PHP+5*25 (FZMW1)+GW18
6	4951TKS041H	METAL ASSEMBLY, FRAME FB990G,PEM NUT BOTTOM FRAME
6-1	6140TC2017A	COIL,DEGAUSSING, - GET 0.6*90T,14 OHM,WITH PURITY FB790G
7	6871TST378A	PWB(PCB) ASSEMBLY,SUB, F900BJ CONTROL TOTAL BRAND .
8	6174T13010K	FBT (FLY BACK TRANSFORMER), FQM19A013,T910BJ(98K) SAMSUNG 19”
9	6200TJB001N	FILTER(CIRC),EMC, 02MD5 DELTA BK F900BJ
10	6850TA9009N	CABLE,D-SUB, UL20276-9C(5.8MM) AT 1560MM GRAY(85964) T910BJ DM
11	4950TKK450A	METAL, REAR BRACKET FB990G
12	6871TUT028A	PWB(PCB) ASSEMBLY,USB, F700PJ SUB TOTAL BRAND .
13	4951TKK090E	METAL ASSEMBLY, SHIELD BOTTOM-FB990J
14	4930TKK031C	HOLDER, PCB FIX, PCT ABS
15	332-102E	SCREW,, PTP+4*16(MSWR/FZMY)
16	4815TKT009A	SHIELD ASSY, TOP (FB915B)
17	332-102E	SCREW,, PTP+4*16(MSWR/FZMY)
A	3313T19054B	MAIN TOTAL ASSEMBLY, F900BJ BRAND CA-130 **- For Euope**
	3313T19054D	MAIN TOTAL ASSEMBLY, F900BJ BRAND CA-130 **- For U.S.A, Canada**
	3313T19054A	MAIN TOTAL ASSEMBLY, F900BJ BRAND CA-130 **- For Israel, Saudi**
B	6871TMT408B	PWB(PCB) ASSEMBLY,MAIN, F900BJ ALRPE BRAND CA-130 TOTAL **- For Euope**
	6871TMT408C	PWB(PCB) ASSEMBLY,MAIN, F900BJ ALUSE BRAND CA-130 TOTAL **- For U.S.A, Canada, Israel**
	6871TMT408A	PWB(PCB) ASSEMBLY,MAIN, F900BJ ALRDE BRAND CA-130 TOTAL **- For Saudi, Israel**
a	332-112F	SCREW,DRAWING, D3.5 L10.0 MSWR/FZMY +SW3.5+RW3.5
b	4001TKK004E	SCREW ASSEMBLY, TAPTITE P TYPE D3.0 L10.0 MSWR/FZMY SW3+RW10
c	339-008C	SCREW ASSY, MP+3*10(FZMY)+SW3+RW3
d	332-095B	SCREW,DRAWING, PZP+3*10(MSWR/FZMY)

REPLACEMENT PARTS LIST

CAUTION: BEFORE REPLACING ANY OF THESE COMPONENTS,
READ CAREFULLY THE **SAFETY PRECAUTIONS** IN THIS MANUAL.
* NOTE : **S** SAFETY Mark ⚠
AL ALTERNATIVE PARTS

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		MAIN BOARD		
		CAPACITORS		
		C301	0CK1020K515	1000PF 50V K B TR
		C303	0CK3320K515	3300P 50V K B TS
		C304	181-288B	MKT 100V 104JTR PHS26104
		C306	181-288N	MKT 100V 103JTR PHS86103
		C307	0CK1030K945	0.01UF 50V Z F TR
		C308	0CK1040K945	0.1UF 50V Z F TR
		C309	0CK1040K945	0.1UF 50V Z F TR
		C310	181-288E	MKT 100V 474JTR PHS 26474
		C311	181-288B	MKT 100V 104JTR PHS26104
		C312	181-288B	MKT 100V 104JTR PHS26104
		C313	181-288B	MKT 100V 104JTR PHS26104
		C315	0CE476CF638	47UF SHL,SD 16V M FM5 TP 5
		C317	0CK1040K945	0.1UF 50V Z F TR
		C318	0CN1040K949	0.1M 50V Z F TA52
		C319	0CK1040K945	0.1UF 50V Z F TR
		C320	0CE107CN630	100U SHL 100V M FM5
		C321	0CK1040K945	0.1UF 50V Z F TR
		C323	0CE107CH638	100UF SHL,SD 25V M FM5 TP 5
		C324	0CN1040K949	0.1M 50V Z F TA52
		C325	181-288E	MKT 100V 474JTR PHS 26474
		C328	0CE476CN618	47UF SHL 100V M FL TP5
		C330	181-288B	MKT 100V 104JTR PHS26104
		C331	181-288E	MKT 100V 474JTR PHS 26474
		C332	181-288E	MKT 100V 474JTR PHS 26474
		C333	181-288E	MKT 100V 474JTR PHS 26474
		C334	181-288B	MKT 100V 104JTR PHS26104
		C335	181-288B	MKT 100V 104JTR PHS26104
		C339	0CK2710W515	270P 500V K B TS
		C340	181-288B	MKT 100V 104JTR PHS26104
		C341	0CK10302945	0.01UF 2KV Z F TR
		C342	0CC2200W415	22PF 500V J NP0 TR
		C344	181-288C	MKT 100V 224JTR PHS 26224
		C346	0CK10202515	1000PF D 2KV 10% TR B(Y5P)
		C347	0CK10302940	0.01M 2KV Z F S
		C355	0CE476CF638	47UF SHL,SD 16V M FM5 TP 5
		C372	0CN1040K949	0.1M 50V Z F TA52
		C401	0CC5600K415	56P 50V J NP0 TP
		C402	0CE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C403	0CK2710K515	270P 50V K B TS
		C404	0CK2710K515	270P 50V K B TS
		C405	0CK2710K515	270P 50V K B TS
		C406	0CC0400K115	4P 50V D NP0 TS
		C407	0CC0400K115	4P 50V D NP0 TS
		C410	0CK1040K945	0.1UF 50V Z F TR
		C417	0CK1040K945	0.1UF 50V Z F TR
		C452	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C453	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C454	0CK1040K945	0.1UF 50V Z F TR
		C455	0CK1040K945	0.1UF 50V Z F TR
		C456	0CN1040K949	0.1M 50V Z F TA52
		C457	181-288E	MKT 100V 474JTR PHS 26474
		C458	0CK1040K945	0.1UF 50V Z F TR

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C459	0CK1010K515	100PF 50V K B TR
		C460	0CE475CK638	4.7UF SHL,SD 50V M FM5 TP 5
		C601	0CQ6821N419	6800PF 100V J PE NI TP
		C602	181-288Q	MKT 100V 154JTR PHS26154
		C603	0CK1020W515	1000P 500V K B TS
		C605	0CE476CN618	47UF SHL 100V M FL TP5
		C611	0CE108CH618	1000UF SHL 25V M FL TP5
		C701	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C702	0CE3376N650	330M SMS 100V M FM7.5
		C704	0CBZTBU003M	562J 20.0*14.0*8.5*10.0 800V
		C705	0CE336CN638	33UF SHL,SD 100V M FM5 TP 5
		C707	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C708	0CE476CQ618	47U SHL 200V M FL TP5
		C709	181-477A	102J 19.5*12.0*7.0*7.5 250V
		C710	0CC3300K405	33P 50V J SL TP
		C711	0CQ4721N419	0.0047U 100V J POLY NI TP5
		C712	0CK2220K515	2200P 50V K B TS
		C713	0CE107CH638	100UF SHL,SD 25V M FM5 TP 5
		C730	0CE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C731	0CE105CK638	1UF SHL,SD 50V 20% FM5 TP 5
		C732	0CK1040K945	0.1UF 50V Z F TR
		C734	181-288T	MKT 100V 223KTR PHS85223
		C735	0CK10302945	0.01UF 2KV Z F TR
		C736	0CK10302945	0.01UF 2KV Z F TR
		C738	0CE685CN638	6.8UF SHL,SD 100V 20% TP 5 F
		C739	0CK1040K945	0.1UF 50V Z F TR
		C740	0CE106EK638	10UF KMG 50V M FM5 TP 5
		C741	0CC1000W105	10PF 500V D SL TR
		C742	0CC1000W105	10PF 500V D SL TR
		C743	0CE106CN638	10UF SHL,SD 100V M FM5 TP 5
		C744	0CN1020K519	1000P 50V K B TA52
		C771	0CK6810K515	680P 50V K B TS
		C772	0CK4710W515	470P 500V K B TS
		C801	0CQ6821N419	6800PF 100V J PE NI TP
		C802	181-288B	MKT 100V 104JTR PHS26104
		C803	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C804	181-288D	MKT 100V 473JTR PHS26473
		C805	181-476R	2200 D 100V H PP NI TP5
		C806	0CE227CH638	220UF SHL,SD 25V M FM5 TP 5
		C807	181-288B	MKT 100V 104JTR PHS26104
		C808	0CC1000K115	10P 50V D NP0 TS
		C809	0CK1020K515	1000PF 50V K B TR
		C810	0CE105CK638	1UF SHL,SD 50V 20% FM5 TP 5
		C811	0CE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C812	0CE107CH638	100UF SHL,SD 25V M FM5 TP 5
		C813	0CE106CK638	10UF SHL,SD 50V M FM5 TP 5
		C814	0CK5610K515	560P 50V K B TS
		C815	0CE227CF638	220UF SHL,SD 16V M FM5 TP 5
		C817	0CE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C818	181-288J	MKT 100V 563JTR PHS26563
		C819	181-477U	333J 19.5*13.0*7.5*7.5 250V
		C821	0CN1040K949	0.1M 50V Z F TA52
		C823	0CK1010K515	100PF 50V K B TR
		C832	0CK10102515	100PF D 2KV 10% B(Y5P) TR

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		C833	181-482D	184J 18.0*15.0*8.5*7.5 250V
		C834	0CN1040K949	0.1M 50V Z F TA52
		C835	0CBZTTA001R	103J 20.0*17.0*10.0*7.5 800V
		C841	0CE476CR630	47UF SHL,SD 250V M FM5 BULK
		C842	181-309H	272J 23.0*17.0*10.0*15.0 1.6
		C843	0CQ3321N419	3300P 100V J POLY NI TP
		C844	181-309H	272J 23.0*17.0*10.0*15.0 1.6
		C845	181-288B	MKT 100V 104JTR PHS26104
		C846	0CE108EF618	1000UF KMG 16V M FL TP 5
		C847	0CQ2221N419	2200PF 100V J PE NI TP
		C848	0CK47101515	470P 1KV K B TS
		C849	0CK6810W515	680P 500V K B TS
		C850	0CK1040K945	0.1UF 50V Z F TR
		C851	0CK1040K945	0.1UF 50V Z F TR
		C852	0CN1040K949	0.1M 50V Z F TA52
		C854	181-482W	304J 19.0*18.5*10.5*7.5 250V
		C855	181-477Z	823J 20.0*17.5*10.0*7.5 250V
		C856	181-482G	334J 18.0*18.0*11.0*7.5 250V
		C857	181-305M	824J 26.0*21.5*13.0*15.0 25
		C858	181-303A	104J 20.5*18.5*10.5*10.0 250
		C859	181-478B	124J 20.0*19.0*11.0*7.5 250V
		C860	0CN1040K949	0.1M 50V Z F TA52
		C861	0CN1040K949	0.1M 50V Z F TA52
		C863	0CN1040K949	0.1M 50V Z F TA52
		C864	0CN1040K949	0.1M 50V Z F TA52
		C865	0CE105CK638	1UF SHL,SD 50V 20% FM5 TP 5
		C891	0CZZTFT001J	ECQB1H562JM3 562J 50V TP5.0
		C892	0CZZTFT001M	ECQB1H103JF3 MATSUSHITA 50V
		C893	181-288B	MKT 100V 104JTR PHS26104
		C894	0CZZTFT001L	ECQB1H822JM3 822J 50V TP5.0
		C895	181-288B	MKT 100V 104JTR PHS26104
		C896	181-288Q	MKT 100V 154JTR PHS26154
		C902	0CKZTTA003C	SC E 472M 14.0FF7 250V TP7.5
		C903	0CK10101515	100PF 1KV K B TR
		C904	181-304V	393J 19.5*15.5*9.5*10.0 400V
		C905	0CZZTAB001B	SMH/HC 470UF 400V 30*50 BK10 **- only U.S.A, Canada**
		C905	181-296F	330UF SMH(30*40) 400V M VNS
		C906	0CE475CN638	4.7UF SHL,SD 100V M FM5 TP 5
		C907	0CE336CK638	33UF SHL,SD 50V M FM5 TP 5
		C908	0CK1040K945	0.1UF 50V Z F TR
		C909	181-288T	MKT 100V 223KTR PHS85223
		C910	0CZZTFT001N	ECQB1H123JM3 123J 50V TP5.0
		C911	0CE108CD618	1000UF SHL 10V M FL TP5
		C912	0CE475CK638	4.7UF SHL,SD 50V M FM5 TP 5
		C915	0CE476CH638	47UF SHL,SD 25V M FM5 TP 5
		C916	0CK2220K515	2200P 50V K B TS
		C917	0CKZTTA003C	SC E 472M 14.0FF7 250V TP7.5
		C918	0CKZTTA003C	SC E 472M 14.0FF7 250V TP7.5
		C920	0CC47001505	47PF 1KV K SL TR
		C921	0CE227CR650	220UF SHL 250V M FM7.5 BULK
		C922	0CE3376N650	330M SMS 100V M FM7.5
		C923	0CK1010W515	100P 500V K B TS
		C925	0CE228CH618	2200U SHL 25V M FL TP5
		C926	0CE108EF618	1000UF KMG 16V M FL TP 5
		C927	0CE228CH618	2200U SHL 25V M FL TP5
		C928	0CE108EF618	1000UF KMG 16V M FL TP 5
		C929	0CK1020K515	1000PF 50V K B TR
		C930	0CQ2721N419	2700PF 100V J PE NI TP
		C931	0CK1010W515	100P 500V K B TS
		C932	0CC47001505	47PF 1KV K SL TR
		C953	0CE477CF638	470UF SHL TYPE 16V M FM5 TP
		C970	0CE476CH638	47UF SHL,SD 25V M FM5 TP 5

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
DIODEs				
		D301	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D302	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D303	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D304	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D305	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D306	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D307	0DS124409AA	1SS244 TP ROHM KOREA
		D308	0DS124409AA	1SS244 TP ROHM KOREA
		D309	0DS124409AA	1SS244 TP ROHM KOREA
		D310	0DS124409AA	1SS244 TP ROHM KOREA
		D311	0DS124409AA	1SS244 TP ROHM KOREA
		D312	0DS124409AA	1SS244 TP ROHM KOREA
		D313	0DS124409AA	1SS244 TP ROHM KOREA
		D314	0DS124409AA	1SS244 TP ROHM KOREA
		D315	0DS124409AA	1SS244 TP ROHM KOREA
		D316	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D401	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D402	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D405	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D451	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D452	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D453	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D454	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D701	0DR400409AC	UF4004 GULF TP DO41 400V 1A
		D702	0DR400409AC	UF4004 GULF TP DO41 400V 1A
		D703	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D704	0DR100009CA	RGP10G TP GULF SEMICONDUCTOR
		D706	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D707	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		D708	0DRFJ00011A	YG339D6F208 FUJI ST TO220 -4
		D731	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D732	0DD400709CB	UF4007 TP G.I DO204AL 1000V
		D733	0DD400709CB	UF4007 TP G.I DO204AL 1000V
		D734	0DD400709CB	UF4007 TP G.I DO204AL 1000V
		D735	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D736	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D737	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D738	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D740	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D771	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D772	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D773	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D801	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D802	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D803	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D804	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D805	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D808	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D811	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D812	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D831	0DR260400AA	S2L60-4004P15 BK SHINDENGEN
		D833	0DR140059DA	1N4005TB52 TP LITEON DO41 60
		D834	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D835	0DRGF00069A	SB140 GULF TP DO41 40V 1A 40
		D836	0DRGF00069A	SB140 GULF TP DO41 40V 1A 40
		D837	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D838	0DR200000EA	FMQ-G2FMS BK SANKEN NON 1500
		D839	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D840	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		D861	0DD140009AA	EK14 V(1) TP SANKEN E/EO-TMD
		D901	0DRGF00090A	GBL06 GULF BK GBL 600V 4A 12

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
				DATE: 2003. 4. 18.
		D902	0DRGF00109A	GUF10M GULF TP DO41 1000V 1A
		D903	0DR100009CA	RGP10G TP GULF SEMICONDUCTOR
		D904	0DR100009DA	RGP10J TP GULF SEMICONDUCTOR
		D905	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D906	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D907	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D908	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D909	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D910	0DRGF00139A	GPP20J GULF TP DO15 600V 2.0
		D911	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D912	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D913	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D914	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D920	0DRSD00079A	D2L20U SHINDENGEN TP DO-204A
		D921	0DRSD00079A	D2L20U SHINDENGEN TP DO-204A
		D922	0DR540400AA	UF5404L BK G.I DO201AD 400V
		D923	0DRGS00400A	31GF4 GENERAL SEMICONDUCTOR
		D924	0DR260400AA	S2L60-4004P15 BK SHINDENGEN
		D925	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D926	0DR260400AA	S2L60-4004P15 BK SHINDENGEN
		D927	0DS141489AB	1N4148 TP GRANDE DO-34 500MW
		D928	971-0054	TIN 50MM TAPING
		D929	0DRGS00400A	31GF4 GENERAL SEMICONDUCTOR
		D951	0DR100009CA	RGP10G TP GULF SEMICONDUCTOR
		ZD402	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD403	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD404	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD405	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD407	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD408	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD409	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD410	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD601	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD703	0DZ510009BE	GDZ5.1B TP GRANDE DO34 500MW
		ZD711	0DZ180009BD	GDZJ18B TP GRANDE DO34 0.5W
		ZD712	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
		ZD801	0DZ110009AD	MTZJ11B TP ROHM-K DO34 500MW
		ZD802	0DZ180009BD	GDZJ18B TP GRANDE DO34 0.5W
		ZD804	0DZ180009BD	GDZJ18B TP GRANDE DO34 0.5W
		ZD901	0DZ240009BJ	GDZJ24B TP GRANDE DO34 500MW
		ZD902	0DZ560009AG	GDZJ5.6B TP GRANDE DO-34 500
ICs				
		IC302	0IPRPNS025A	LM1246DDA/NA NATIONAL SEMICO
		IC303	0IPRPNS007A	LM2463TA NATIONAL SEMICONDUC
		IC304	0IPRPNS005A	LM2480NA NATIONAL SEMICONDUC
		IC401	0IZZTSZ241A	HBW96G6 WT62P1 42P ST MTP .
		IC402	0ISG240860A	M24C08-BN6 8DIP BK 8K SERIAL
		IC601	0IPRPPH018A	TDA4867J PHILIPS 9PIN,ST DIP
		IC702	0INS353000A	LF353N OP-AMP
		IC801	0IPRPPH005A	TDA4841PS PHILIPS 32P,SDIP S
		IC802	0IMI625010A	M62501P 16P4 BK INTERFACE PW
		IC901	0ISS384300A	KA3843B 8P SDIP BK PWM CONTR
		IC903	0ISS780500F	KA7805
		IC905	0ISS781200K	KA78R12-STU TO220(4L) BK L/D
COILs & COREs				
		FB301	125-022J	FERRITE KQ-1 JS 3.5*5.0MM AX
		FB302	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB303	125-022J	FERRITE KQ-1 JS 3.5*5.0MM AX

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		FB304	125-022J	FERRITE KQ-1 JS 3.5*5.0MM AX
		FB305	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB306	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB309	125-155B	BFS3580R2FG SAMWHA 3.5*8.0MM
		FB310	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB311	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB401	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB402	125-155N	BFD3565R2FG SAMWHA 3.5*6.5MM
		FB403	125-155L	BFS3580A0FG SAMWHA 3.5*8.0MM
		FB404	125-155F	BFD3580R2FG SAMWHA 3.5*8.0MM
		FB405	125-155F	BFD3580R2FG SAMWHA 3.5*8.0MM
		FB406	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB407	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB701	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB801	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB841	125-155P	BFS2550R2FG SAMWHA 2.5*5.0MM
		FB901	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB902	125-155A	BFD3510R2FG SAMWHA 3.5*10MM
		FB903	125-155H	BFS3510A0FG SAMWHA 3.5*10MM
		FB904	125-155H	BFS3510A0FG SAMWHA 3.5*10MM
		FB905	125-155C	BFD3514R2FG SAMWHA 3.5*14MM
		FB906	125-155H	BFS3510A0FG SAMWHA 3.5*10MM
		FB907	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB908	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		FB909	125-155H	BFS3510A0FG SAMWHA 3.5*10MM
		L301	0LA0220K119	0.22UH K 2.3*3.4 TP
		L302	0LA0150K119	AXIAL TAE YANG 0.15UH 10% A
		L303	0LA0220K119	0.22UH K 2.3*3.4 TP
		L311	0LA0390K119	0.39UH K 2.3*3.4 TP
		L312	0LA0390K119	0.39UH K 2.3*3.4 TP
		L313	0LA0390K119	0.39UH K 2.3*3.4 TP
		L701	6140TBZ009D	- GET NO CORE,0.1*30 50TS,10
		L801	6140TYZ011E	- GET H-LIN,2.0UH,FB990G
		L901	6140TBZ032C	NAMYANG - **For Israel, Saudi, U.S.A, Canada**
		L805	150-985P	DR12*15 6MH 0.25MM 365.5T
		L806	150-985N	DR10*10 4.7UH 0.16MM 322.5
TRANSISTOR				
		Q301	0TR127509AC	KTA1275-Y(KTA1013) TP KEC TO
		Q302	0TR231609AA	KSC2316-Y TP SAMSUNG TO92L
		Q451	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q452	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q453	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO
		Q454	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q455	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q456	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO
		Q458	0TR320509AB	KTC3205-Y(KTC2236A) TP KEC T
		Q459	0TR127309AA	KTA1273-Y(KTA966A) TP KEC TO
		Q701	0TR320509AB	KTC3205-Y(KTC2236A) TP KEC T
		Q704	0TF760000AD	SSS7N60B FAIRCHILD ST TO220F
		Q705	0TR320209AA	KTC3202-Y(KTC1959) TP KEC TO
		Q706	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q707	0TR390409CA	FAIRCHILD 2N3904(TA) TP TO-9
		Q708	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q721	0TR390409CA	FAIRCHILD 2N3904(TA) TP TO-9
		Q723	0TR390409CA	FAIRCHILD 2N3904(TA) TP TO-9
		Q724	0TR463300AB	2SC4633(LS-CB11) BK SANYO L
		Q725	0TR463300AB	2SC4633(LS-CB11) BK SANYO L
		Q726	0TR555109AB	2N5551 TP SAMSUNG TO92 AMP
		Q771	0TR920009AB	KSP92 TP SAMSUNG TO92 HIGH V
		Q801	0TR558900BA	2SC5589(LG,W/M) BK TOSHIBA T

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		Q802	0TR471009AA	KSD471AC-Y TP SAMSUNG TO92
		Q803	0TR564009AB	KSB564AC-YTA TP SANSUNG TO92
		Q804	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q806	0TR471009AA	KSD471AC-Y TP SAMSUNG TO92
		Q807	0TR564009AB	KSB564AC-YTA TP SANSUNG TO92
		Q808	0TR127009AA	KTA1270-Y(KTA562TM) TP KEC T
		Q810	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q811	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5
		Q812	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q832	0TF283509AA	2SK2835(TP) TP TOSHIBA 200V
		Q833	0TFFC10008A	SFS9634 FAIRCHILD ST TO220F
		Q834	0TR231609AA	KSC2316-Y TP SAMSUNG TO92L
		Q836	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5
		Q837	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5
		Q838	0TF630000CA	IRFS630A BK SAMSUNG 200V 6.5
		Q839	0TF640000CA	IRFS640A BK SAMSUNG 200V 9A
		Q841	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q842	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q843	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q844	0TR114009AB	DTC114ES TP ROHM-K SPT NPN
		Q901	0TFFN10003C	INFINEON SPA07N60C3(E8153) S
		Q902	0DR100609BA	MCR100-6RLRA TP MOTOROLA TO9
		Q903	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q912	0TR127309AA	KTA1273-Y(KTA966A) TP KEC TO
		Q913	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q914	0TR928009AB	KSA928A-Y TP SAMSUNG TO92L P
		Q915	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
		Q920	0TR319809AA	KTC3198-Y(KTC1815) TP KEC TO
RESISTORs				
		R301	0RD0752Q609	75 1/4W(3 5% TA52
		R302	0RD0752Q609	75 1/4W(3 5% TA52
		R303	0RD0752Q609	75 1/4W(3 5% TA52
		R305	0RN6201F409	6.20K 1/6W 1% TA52
		R306	0RD1002Q609	10K 1/4W(3 5% TA52
		R307	0RD5102Q509	51K OHM 1/4 W (3.4) 2% TA52
		R308	0RD1002Q609	10K 1/4W(3 5% TA52
		R314	0RD1000Q609	100 1/4W(3 5% TA52
		R315	0RD1000Q609	100 1/4W(3 5% TA52
		R319	0RD8201Q609	8.20K 1/4W(3 5% TA52
		R320	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R326	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R327	0RD2001Q609	2K 1/4W(3 5% TA52
		R328	0RD2001Q609	2K 1/4W(3 5% TA52
		R329	0RD2001Q609	2K 1/4W(3 5% TA52
		R330	0RD1000Q609	100 1/4W(3 5% TA52
		R331	0RD1500Q609	150 1/4W(3 5% TA52
		R332	0RD1800Q609	180 1/4W(3 5% TA52
		R333	0RD1300Q609	130 1/4W(3 5% TA52
		R334	0RD3303Q609	330K 1/4W(3 5% TA52
		R335	0RD3303Q609	330K 1/4W(3 5% TA52
		R336	0RD3303Q609	330K 1/4W(3 5% TA52
		R337	0RD1500Q609	150 1/4W(3 5% TA52
		R340	0RN1002F409	10K 1/6W 1 TA52
		R341	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R342	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R343	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R344	0RD0332Q609	33 1/4W(3 5% TA52
		R345	0RD0332Q609	33 1/4W(3 5% TA52
		R346	0RD0332Q609	33 1/4W(3 5% TA52
		R347	971-0054	TIN 50MM TAPING

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*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R401	0RD3300Q609	330 1/4W(3 5% TA52
		R402	0RD1000Q609	100 1/4W(3 5% TA52
		R403	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R405	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R406	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R407	0RD1000Q609	100 1/4W(3 5% TA52
		R412	0RD1000Q609	100 1/4W(3 5% TA52
		R413	0RD2202Q609	22K 1/4W(3 5% TA52
		R414	0RD2202Q609	22K 1/4W(3 5% TA52
		R415	0RD2202Q609	22K 1/4W(3 5% TA52
		R416	0RD2202Q609	22K 1/4W(3 5% TA52
		R418	0RD2000Q609	200 1/4W(3 5% TA52
		R419	0RN1002F409	10K 1/6W 1 TA52
		R420	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R421	0RD1001Q609	1K 1/4W(3 5% TA52
		R422	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R423	0RD1000Q609	100 1/4W(3 5% TA52
		R424	0RN2201F409	2.20K 1/6W 1% TA52
		R425	0RD2001Q609	2K 1/4W(3 5% TA52
		R426	0RD2001Q609	2K 1/4W(3 5% TA52
		R428	0RD1000Q609	100 1/4W(3 5% TA52
		R429	0RD1000Q609	100 1/4W(3 5% TA52
		R430	0RD1801Q609	1.80K 1/4W(3 5% TA52
		R431	0RD1801Q609	1.80K 1/4W(3 5% TA52
		R432	0RD1301Q609	1.30K 1/4W(3 5% TA52
		R434	0RN1002F409	10K 1/6W 1 TA52
		R440	0RD1000Q609	100 1/4W(3 5% TA52
		R443	0RD1001Q609	1K 1/4W(3 5% TA52
		R451	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R452	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R453	0RD1500Q609	150 1/4W(3 5% TA52
		R454	0RD6201Q609	6.20K 1/4W(3 5% TA52
		R455	0RN0270G609	0.27 1/4W 5 TA52
		R456	0RD0622A609	62 OHM 1/2 W (7.0) 5% TA52
		R457	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R458	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R459	0RD1500Q609	150 1/4W(3 5% TA52
		R460	0RD8201Q609	8.20K 1/4W(3 5% TA52
		R461	0RX0472J609	47 OHM 1 W 5% TA52
		R462	0RD0102A609	10 OHM 1/2 W (7.0) 5% TA52
		R463	0RD6801Q609	6.80K 1/4W(3 5% TA52
		R464	0RN1000F409	100OHM 1/6 W 1% TA52
		R465	0RN6202F409	62KOHM 1/6 W 1% TA52
		R466	0RD4302Q609	43K 1/4W(3 5% TA52
		R467	0RN5601F409	5.60K 1/6W 1% TA52
		R473	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R493	0RD1000Q609	100 1/4W(3 5% TA52
		R494	0RD1000Q609	100 1/4W(3 5% TA52
		R601	0RD2001Q609	2K 1/4W(3 5% TA52
		R602	0RD2001Q609	2K 1/4W(3 5% TA52
		R603	0RD0111A609	1.1 OHM 1/2 W (7.0) 5% TA52
		R604	0RD0331A609	3.3 OHM 1/2 W (7.0) 5% TA52
		R605	0RN1502F409	15K 1/6W 1% TA52
		R606	0RN1502F409	15K 1/6W 1% TA52
		R607	0RD2000A609	200 OHM 1/2 W (7.0) 5% TA52
		R608	0RD1000Q609	100 1/4W(3 5% TA52
		R609	0RD1000A609	100 OHM 1/2 W (7.0) 5% TA52
		R610	0RN0390H609	0.39 1/2W 5 TA52
		R701	0RMZTWD001K	RWR SMART 100OHM 7 W 5% PD T
		R702	0RD1002Q609	10K 1/4W(3 5% TA52
		R703	0RD3301Q609	3.30K 1/4W(3 5% TA52
		R704	0RD2201Q609	2.20K 1/4W(3 5% TA52

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		R705	0RB0150K609	0.15 OHM 2 W 5% TA52
		R706	0RD1003Q609	100K 1/4W(3 5% TA52
		R707	0RD5601Q609	5.60K 1/4W(3 5% TA52
		R710	0RD0222Q609	22 1/4W(3 5% TA52
		R711	0RN1502F409	15K 1/6W 1% TA52
		R712	0RD1003Q609	100K 1/4W(3 5% TA52
		R714	0RD1001Q609	1K 1/4W(3 5% TA52
		R715	0RD5601Q609	5.60K 1/4W(3 5% TA52
		R716	0RD1004Q609	1M OHM 1/4 W (3.4) 5% TA52
		R717	0RD1000Q609	100 1/4W(3 5% TA52
		R718	0RN0101H609	1.0 1/2W 5 TA52
		R718-1	0RN0111H509	1.1 OHM 1/2 W 2.00% TA52
		R719	0RD0332Q609	33 1/4W(3 5% TA52
		R720	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R721	0RN7501F409	7.50K 1/6W 1% TA52
		R722	0RD1003Q609	100K 1/4W(3 5% TA52
		R723	0RN1302F409	13K 1/6W 1% TA52
		R730	0RD6202Q609	62K OHM 1/4 W (3.4) 5% TA52
		R731	0RD1000Q609	100 1/4W(3 5% TA52
		R732	0RD1001Q609	1K 1/4W(3 5% TA52
		R733	0RD4702Q609	47K 1/4W(3 5% TA52
		R734	0RD2001Q609	2K 1/4W(3 5% TA52
		R735	0RD1002Q609	10K 1/4W(3 5% TA52
		R736	0RD2001A609	2.0K OHM 1/2 W (7.0) 5% TA52
		R737	0RD6801Q609	6.80K 1/4W(3 5% TA52
		R738	0RN2702F409	27K 1/6W 1% TA52
		R739	0RC1004A609	1M OHM 1/2 W(7.0) 5% TA52
⚠		R740	0RN1503G409	150K 1/4W 1 TA52
		R741	0RD2001Q609	2K 1/4W(3 5% TA52
		R742	0RD6800Q609	680 1/4W(3 5% TA52
		R743	0RD1000A609	100 OHM 1/2 W (7.0) 5% TA52
		R744	0RX1502J609	15KOHM 1 W 5% TA52
		R745	0RD0472Q609	47 1/4W(3 5% TA52
		R746	0RX1503L607	150K OHM 3 W 5% TA62
		R747	0RX1503L607	150K OHM 3 W 5% TA62
		R748	0RD0472Q609	47 1/4W(3 5% TA52
		R749	0RD4300Q609	430 OHM 1/4 W(3.4) 5.00% TA5
		R750	0RD6800Q609	680 1/4W(3 5% TA52
		R764	0RD0472Q609	47 1/4W(3 5% TA52
		R771	0RD1101Q609	1.1K OHM 1/4 W (3.4) 5% TA52
		R773	0RN6202H409	62000 OHM 1/2 W 1% TA52
		R774	0RN4302G409	43K OHM 1/4 W 1% TA52
		R775	0RD3300Q609	330 1/4W(3 5% TA52
		R776	0RD7502Q609	75K 1/4W(3 5% TA52
		R780	0RD2202Q609	22K 1/4W(3 5% TA52
		R781	0RX4300K607	430 OHM 2 W 5% TA62
		R801	0RD1502Q609	15K 1/4W(3 5% TA52
		R802	0RD2002Q509	20K OHM 1/4 W (3.4) 2% TA52
		R803	0RD3302Q609	33K 1/4W(3 5% TA52
		R805	0RD1002Q609	10K 1/4W(3 5% TA52
		R806	0RD1002Q609	10K 1/4W(3 5% TA52
		R807	0RD1001Q609	1K 1/4W(3 5% TA52
		R808	0RD1001Q609	1K 1/4W(3 5% TA52
		R809	0RN3902F409	39K 1/6W 1% TA52
		R810	0RD1001Q609	1K 1/4W(3 5% TA52
		R811	0RD1001Q609	1K 1/4W(3 5% TA52
		R812	0RD2201Q609	2.20K 1/4W(3 5% TA52
		R813	0RD2401Q609	2.40K 1/4W(3 5% TA52
⚠		R814	0RN1202F409	12K 1/6W 1% TA52
		R815	0RN4700F409	470 1/6W 1 TA52
		R816	0RD1001Q609	1K 1/4W(3 5% TA52
		R817	0RD1002Q609	10K 1/4W(3 5% TA52
		R818	0RD2701Q609	2.70K 1/4W(3 5% TA52

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⚠		R822	0RN3601F409	3.6K 1/6W 1 TA52
		R823	0RD2703Q609	270K 1/4W(3 5% TA52
⚠		R824	0RN4700F409	470 1/6W 1 TA52
⚠		R825	0RN1002F409	10K 1/6W 1 TA52
⚠		R826	0RN1602F409	16K 1/6W 1% TA52
		R827	0RN1002F409	10K 1/6W 1 TA52
		R830	0RD1002Q609	10K 1/4W(3 5% TA52
⚠		R831	0RN9101F409	9.10K 1/6W 1% TA52
		R835	0RD4700Q609	470 OHM 1/4 W (3.4) 5% TA52
		R836	0RD1002A609	10K OHM 1/2 W (7.0) 5% TA52
		R837	0RN1202F409	12K 1/6W 1% TA52
		R838	0RD0101Q609	1 1/4W(3 5% TA52
		R841	0RD5601Q609	5.60K 1/4W(3 5% TA52
		R842	0RMZTWD001A	4.7 OHM 5 W 5% B RWR
		R843	0RX1003J609	100KOHM 1 W 5% TA52
		R846	0RD0332A609	33 OHM 1/2 W (7.0) 5% TA52
		R847	0RD1000A609	100 OHM 1/2 W (7.0) 5% TA52
		R848	0RD0471A609	4.7 OHM 1/2 W (7.0) 5% TA52
		R849	0RX1300J609	130 OHM 1 W 5% TA52
		R850	0RMZTWD001C	47 OHM 7 W 5% RWR PD-TYPE
		R851	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R853	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R855	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R857	0RD3001Q609	3K 1/4W(3 5% TA52
		R859	0RD0102Q609	10 1/4W(3 5% TA52
		R860	0RD2000Q609	200 1/4W(3 5% TA52
		R861	0RMZTWV001J	RWR SMART 0.62OHM 7 W 5% CEM
		R862	0RB0120K607	0.12 OHM 2 W 5% TA62
		R864	0RD2202Q609	22K 1/4W(3 5% TA52
		R865	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R871	0RX1500K607	150 OHM 2 W 5% TA62
		R872	0RD2401Q609	2.40K 1/4W(3 5% TA52
		R873	0RD0122A609	12 OHM 1/2 W (7.0) 5% TA52
		R874	0RX0332K607	33 OHM 2 W 5% TA62
		R875	0RX0242K607	24 OHM 2 W 5.00% TA62
		R876	0RD3002Q509	30000 OHM 1/4 W (3.4) 2% TA5
		R878	0RX0182K607	18 OHM 2 W 5% TA62
		R891	0RN2701F409	2.7K OHM 1/6 W 1.00% TA52
		R892	0RN6800F409	680 1/6W 1% TA52
		R893	0RD3301Q609	3.30K 1/4W(3 5% TA52
		R894	0RN2202F409	22K 1/6W 1% TA52
		R895	0RD1000Q609	100 1/4W(3 5% TA52
		R896	0RD1000Q609	100 1/4W(3 5% TA52
		R901	180-465H	0.24 OHM 5W 5% B RWR - For Israel, Saudi, U.S.A, Canada
		R902	0RD0912Q609	91 OHM 1/4 W (3.4) 5% TA52
		R903	0RD0752Q609	75 1/4W(3 5% TA52
		R904	0RX3902J609	39K OHM 1 W 5% TA52
		R905	0RX1003K607	100KOHM 2 W 5% TA62
		R906	0RX1003K607	100KOHM 2 W 5% TA62
		R907	0RD1000Q609	100 1/4W(3 5% TA52
		R908	0RN0220H609	0.22 1/2W 5% TA52
		R909	0RD1002Q609	10K 1/4W(3 5% TA52
⚠		R910	0RN1602H409	16000 OHM 1/2 W 1% TA52
⚠		R911	0RN6200F409	620 1/6W 1% TA52
		R912	0RD1001Q609	1K 1/4W(3 5% TA52
		R913	0RB0120K607	0.12 OHM 2 W 5% TA62
		R914	0RD1500Q609	150 1/4W(3 5% TA52
		R915	0RD8203Q609	820KOHM 1/4 W (3.4) 5% TA52
		R916	0RD8203Q609	820KOHM 1/4 W (3.4) 5% TA52
		R917	0RD1000Q609	100 1/4W(3 5% TA52
		R918	0RD1003Q609	100K 1/4W(3 5% TA52
		R919	0RD2002Q609	20K 1/4W(3 5% TA52
		R920	0RD0432Q609	43 OHM 1/4 W (3.4) 5% TA52

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
				DATE: 2003. 4. 18.
		R921	0RD0332Q609	33 1/4W(3 5% TA52
		R922	0RD5601Q609	5.60K 1/4W(3 5% TA52
		R923	0RD4703Q609	470K 1/4W(3 5% TA52
		R924	0RD0152Q609	15 1/4W(3 5% TA52
		R925	0RD1501Q609	1.50K 1/4W(3 5% TA52
		R926	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R927	0RD1001Q609	1K 1/4W(3 5% TA52
		R929	0RN0220H609	0.22 1/2W 5% TA52
		R930	0RN0220H609	0.22 1/2W 5% TA52
		R931	0RC4703A609	470K OHM 1/2 W(7.0) 5% TA52
		R932	0RC4703A609	470K OHM 1/2 W(7.0) 5% TA52
		R933	0RD0472Q609	47 1/4W(3 5% TA52
		R934	0RD3302Q609	33K 1/4W(3 5% TA52
		R935	0RD3301Q609	3.30K 1/4W(3 5% TA52
		R941	0RD2703Q609	270K 1/4W(3 5% TA52
		R949	0RN0220H609	0.22 1/2W 5% TA52
		R950	0RD1002Q609	10K 1/4W(3 5% TA52
		R951	0RD1101A609	1.1K OHM 1/2 W (7.0) 5% TA52
		R952	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R953	0RD1002Q609	10K 1/4W(3 5% TA52
		R954	0RD4700A609	470 OHM 1/2 W (7.0) 5% TA52
		R955	0RD4701Q609	4.70K 1/4W(3 5% TA52
		R984	0RX3902J609	39K OHM 1 W 5% TA52
		R990	0RD0512Q609	51 1/4W(3 5% TA52
		R991	0RD5101Q609	5.10K 1/4W(3 5% TA52
		R992	0RD5101Q609	5.10K 1/4W(3 5% TA52
		OTHERs		
		F1	430-858C	AFC-520 BAE EUN TA
		F2	430-858C	AFC-520 BAE EUN TA
		F901	0FZZTTH004B	TIME LAG HBC TSC 5A/250V,WAL
		J315	125-155K	BFS3550A0FG SAMWHA 3.5*5.0MM
		J54	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		RL901	6920TBB006A	DY3M-DC12V DONGYANG 250VAC 5
		SC301	6620TBD003A	PCS701E PARK ELEC. 10PIN 14/
		SC901	6200TJB001N	02MD5 DELTA BK F900BJ
		SG301	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG302	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG303	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG304	6918TAT005E	MTAS-201M GIGA AXIAL TAPING
		SG305	165-004A	AG20PT 152F-L3N/S-23 HANDOK
		SG701	165-004A	AG20PT 152F-L3N/S-23 HANDOK
		SW801	140-079C	SLS-1301 SW NON 30 0 HORIZEN
⚠		T701	6174T13010K	FQM19A013,T910BJ(98K) SAMSUN
		T801	6140TDZ010A	- - DUMMY,EER2834,F900BJ 80.
		T802	6170TCZ008C	EI2218 1.48MH FB990G
		T901	6170TMZ150A	EER4045 200UH V-18PIN F700PJ
		TH901	6322B00003A	J502P62D070Q290 JA HWA 7 OHM
		TH902	6322TA080BA	SCK-084 THINKING 8 OHM 15% 264V **- For Israel,Saudi, U.S.A, Canada**
		VR801	180-035Q	EVN-DJAA03B24 (MEC),20KB
		VR901	180-035A	EVN-DJAA03B12 (MEC),100B
		X401	6202TTB003B	HC-49/U HARMONY RADIAL 12MHZ
		CONTROL BOARD		
		C201	0CN1040K949	0.1M 50V Z F TA52
		D201	0DL305029BA	LTL-305DJ-0C2 TP LITEON GREE
		FB201	125-155J	BFS2550A0FG SAMWHA 2.5*5.0MM
		P201	6631T20008K	7P H-B 260MM UL1061 AWG 26 T
		P250	6602T20009C	SMAW200-04 YEONHO 2.0MM LOCK
		R201	0RD1001Q609	1K 1/4W(3 5% TA52

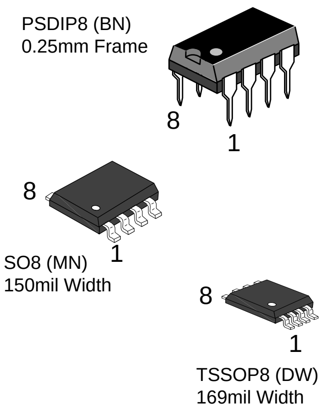
*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
				DATE: 2003. 4. 18.
		R202	0RD1600Q609	160 1/4W(3 5% TA52
		R203	0RD2200Q609	220 1/4W(3 5% TA52
		R204	0RD2200Q609	220 1/4W(3 5% TA52
		R205	0RD1001Q609	1K 1/4W(3 5% TA52
		R206	0RD1600Q609	160 1/4W(3 5% TA52
		R207	0RD3300Q609	330 1/4W(3 5% TA52
		R208	0RD3300Q609	330 1/4W(3 5% TA52
		R209	0RD5600Q609	560 1/4W(3 5% TA52
		R210	0RD3600Q609	360 1/4W(3 5% TA52
		R211	0RD5100Q609	510 1/4W(3 5% TA52
		SW201	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW202	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW203	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW204	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW205	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW206	140-058D	SKHV10911A LGEC NON 12 20 HO
		SW250	6600M000020	2216F DAE JIN 30VDC 0.1A 250
		USB BOARD		
		C801	0CE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C803	0CE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C805	0CH6330K416	33PF 50V J NP0 2012 R/TP
		C806	0CE1074F638	100UF SRA,SS 16V M FM5 TP 5
		C807	0CE1054K638	1 UF SRA,SS 50V M FM5 TP 5
		C808	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		C809	0CH6330K416	33PF 50V J NP0 2012 R/TP
		C810	0CE1054K638	1 UF SRA,SS 50V M FM5 TP 5
		C812	0CH3103K516	10000PF 50V 10% B(Y5P) 2012
		C813	0CK1030K945	0.01UF 50V Z F TR
		C820	0CH6470K416	47PF 50V 5% NP0 2012 R/TP
		C821	0CH6470K416	47PF 50V 5% NP0 2012 R/TP
		C822	0CH6470K416	47PF 50V 5% NP0 2012 R/TP
		C823	0CH6470K416	47PF 50V 5% NP0 2012 R/TP
		C831	0CH6470K416	47PF 50V 5% NP0 2012 R/TP
		C832	0CH6470K416	47PF 50V 5% NP0 2012 R/TP
		C850	0CH3104K946	100000PF 50V Z F 2012 R/TP
		C851	0CH3104K946	100000PF 50V Z F 2012 R/TP
		IC801	0IPH112200C	ISP1122ABD 32P,LQFP R/TP USB
		IC802	0ITI204200B	TPS2042ADR TEXAS INSTRUMENT
		L801	125-155P	BFS2550R2FG SAMWHA 2.5*5.0MM
		L802	125-155H	BFS3510A0FG SAMWHA 3.5*10MM
		L803	971-0054	TIN 50MM TAPING
		L804	6210TCE001H	HB-1T2012-301JT CERATEC 2012
		L805	6210TCE001H	HB-1T2012-301JT CERATEC 2012
		L807	6210TCE001H	HB-1T2012-301JT CERATEC 2012
		L808	6210TCE001H	HB-1T2012-301JT CERATEC 2012
		L809	6210TCE001H	HB-1T2012-301JT CERATEC 2012
		L810	6210TCE001H	HB-1T2012-301JT CERATEC 2012
		L812	125-155D	BFS3514A0FG SAMHWA 3.5*14MM
		R801	0RH1502D622	15K 1/10W 5 D.R/TP
		R802	0RH1502D622	15K 1/10W 5 D.R/TP
		R803	0RH1502D622	15K 1/10W 5 D.R/TP
		R804	0RD0222Q609	22 1/4W(3 5% TA52
		R805	0RD0222Q609	22 1/4W(3 5% TA52
		R806	0RD0222Q609	22 1/4W(3 5% TA52
		R807	0RH1502D622	15K 1/10W 5 D.R/TP
		R808	0RH0222D622	22 1/10W 5 D.R/TP
		R809	0RH1004D622	1.0M 1/10W 5 D.R/TP
		R810	0RH1004D622	1.0M 1/10W 5 D.R/TP
		R811	0RH1003D622	100K 1/10W 5 D.R/TP
		R812	0RH1003D622	100K 1/10W 5 D.R/TP

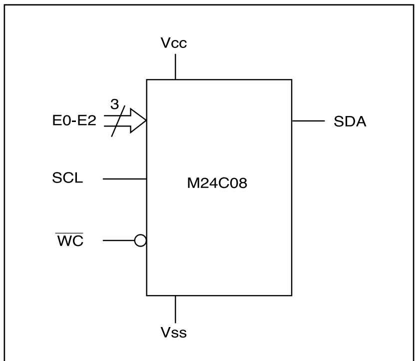
DATE: 2003. 4. 18.

*S	*AL	LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		R813	0RH1004D622	1.0M 1/10W 5 D.R/TP
		R814	0RH1004D622	1.0M 1/10W 5 D.R/TP
		R817	0RH0222D622	22 1/10W 5 D.R/TP
		R821	0RH1501D622	1.5K OHM 1 / 10 W 2012 5.00%
		R828	0RH0222D622	22 1/10W 5 D.R/TP
		R829	0RH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R830	0RH1002D622	10K OHM 1 / 10 W 2012 5.00%
		R835	0RH1003D622	100K 1/10W 5 D.R/TP
		R836	0RH1004D622	1.0M 1/10W 5 D.R/TP
		R837	0RH3301D622	3.3K 1/10W 5 D.R/TP
		R841	0RH1502D622	15K 1/10W 5 D.R/TP
		R842	0RH1502D622	15K 1/10W 5 D.R/TP
		R850	0RH1502D622	15K 1/10W 5 D.R/TP
		R851	0RH1502D622	15K 1/10W 5 D.R/TP
		X801	6202TTB002B	ATS-49/U SUNNY RADIAL 6MHZ 3
		ZD801	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD802	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD803	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD804	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD805	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD806	0DZ510009EE	UDZ S 5.1B TP ROHM-K SOD323
		ZD811	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323
		ZD812	0DZ560009DA	UDZ S 5.6B TP ROHM-K SOD323

PIN CONFIGURATION

M24C08 Serial I²C BUS EEPROM



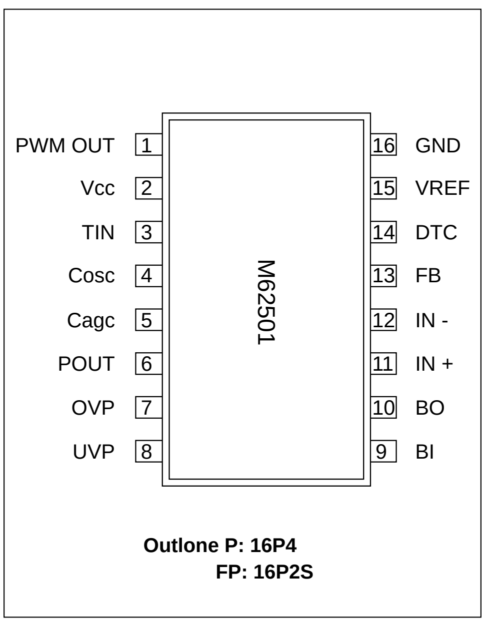


Logic Dirgram

SYMBOL	DESCRIPTION
E0-E2	Chip Enable Input
SDA	Serial Data Address Input/Output
SCL	Serial Clock
WC	Write Control
Vcc	Supply Voltage
Vss	Ground

M62501P /FP

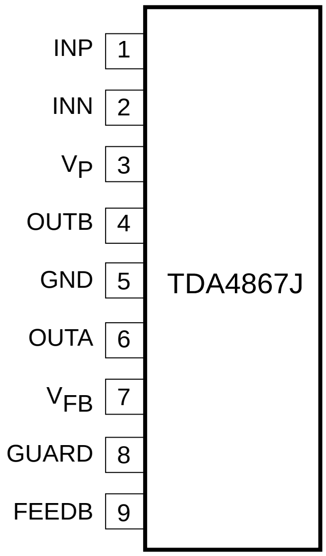
PIN CONFIGURATION(TOP VIEW)



Teerminal Number and The facillty

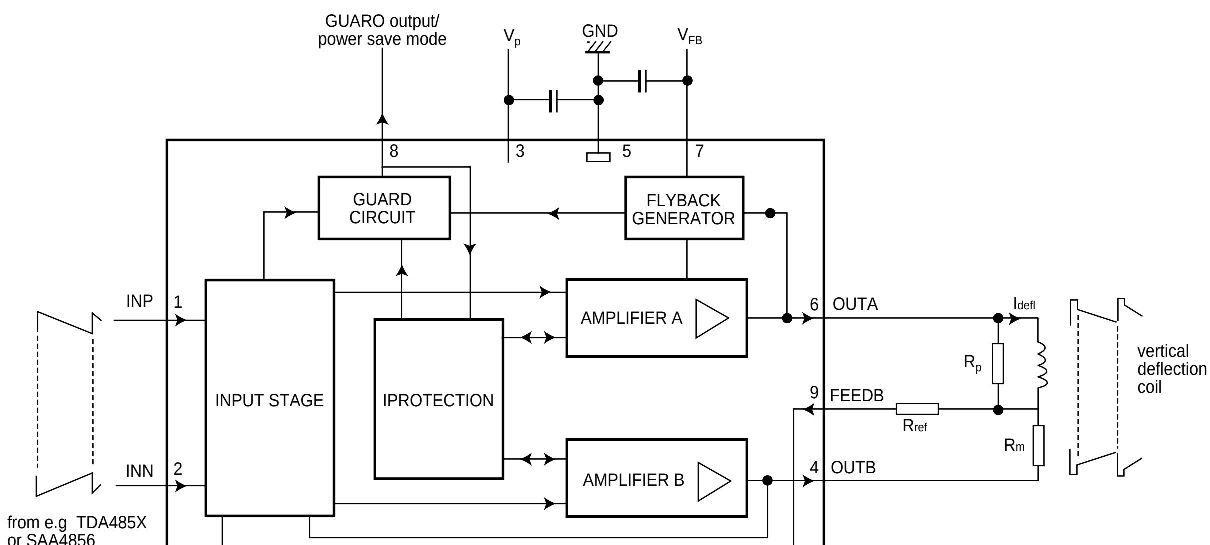
PIN NO.	Symbol	Functional Description
1	PWM OUT	PWM output terminal
2	Vcc	Power supply terminal
3	TIN	Trigger Input terminal
4	CAGC	This pin is used to set oscillating frequency
5	CAGC	This pin is used for AGC setting
6	P.OUT	Output terminal of error signal
7	OVP	Input terminal of Over Voltage Protection
8	UVP	Input terminal of Under Voltage Protection
9	BI	Postive Input terminal of Buffer Amp
10	BO	Output terminal of Buffer Amp
11	IN^{+}	Postive Input terminal of OP Amp
12	IN^{-}	Negative Input terminal of OP Amp
13	FB	Output terminal of OP Amp
14	DTC	Dead time control terminal(Soft start function)
15	VREF	Output terminal of reference voltage (5V)
16	GND	Ground terminal

TDA4867J PHILIPS 32P, SDIP

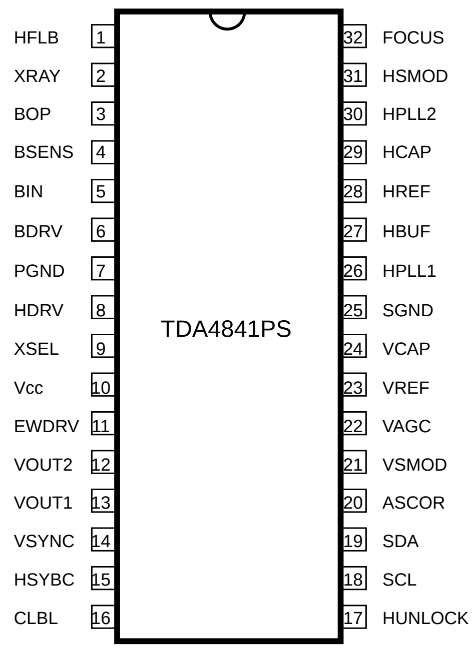


Pin Configuration

SYMBOL	PIN	DESCRIPTION
INP	1	non-inverted input
INN	2	inverted input
V_P	3	supply voltage
OUTB	4	output B
GND	5	ground
OUTA	6	output A
V_{FB}	7	flyback supply voltage
GUARD	8	guard output
FEEDB	9	feedback inprt

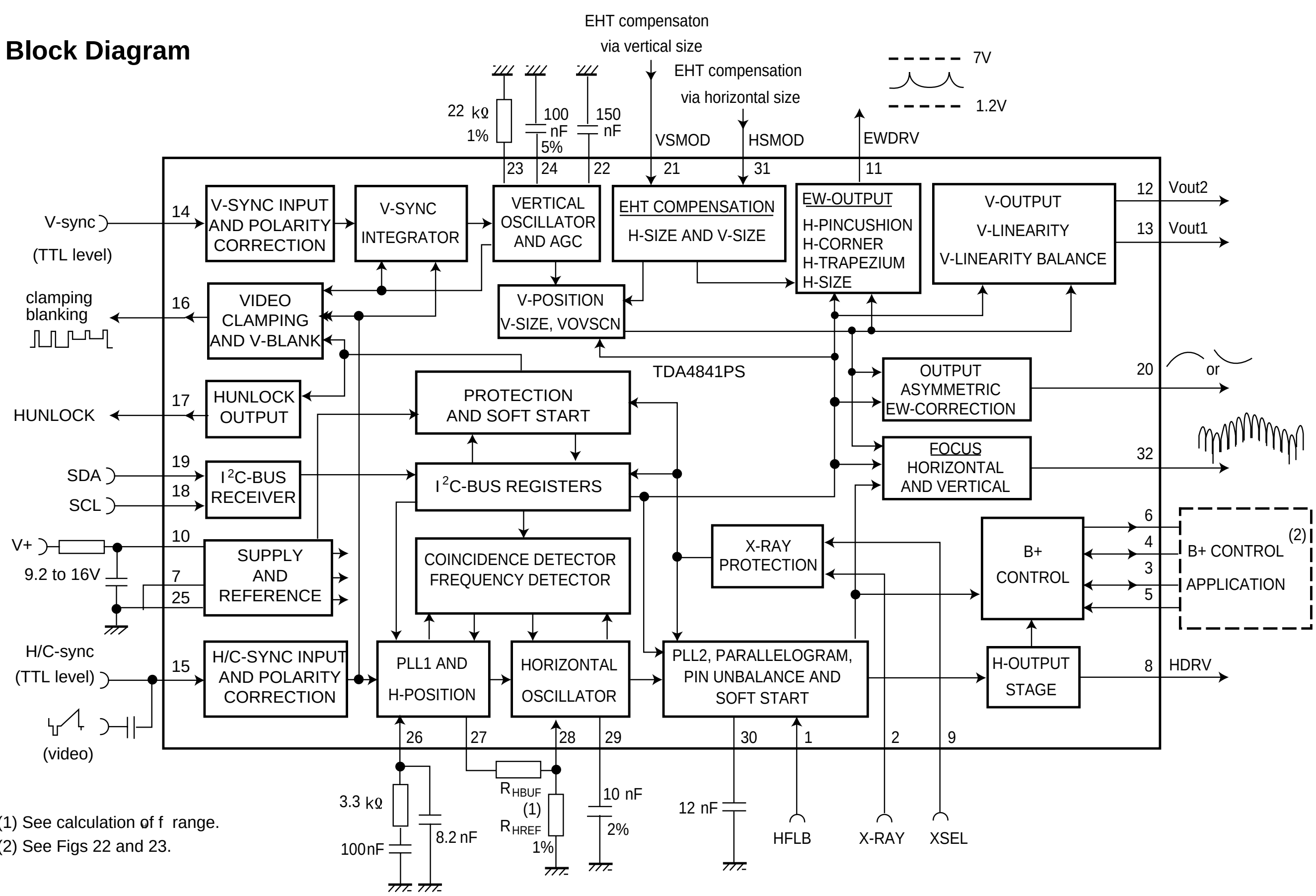


Block Diagram



Pin Configuration

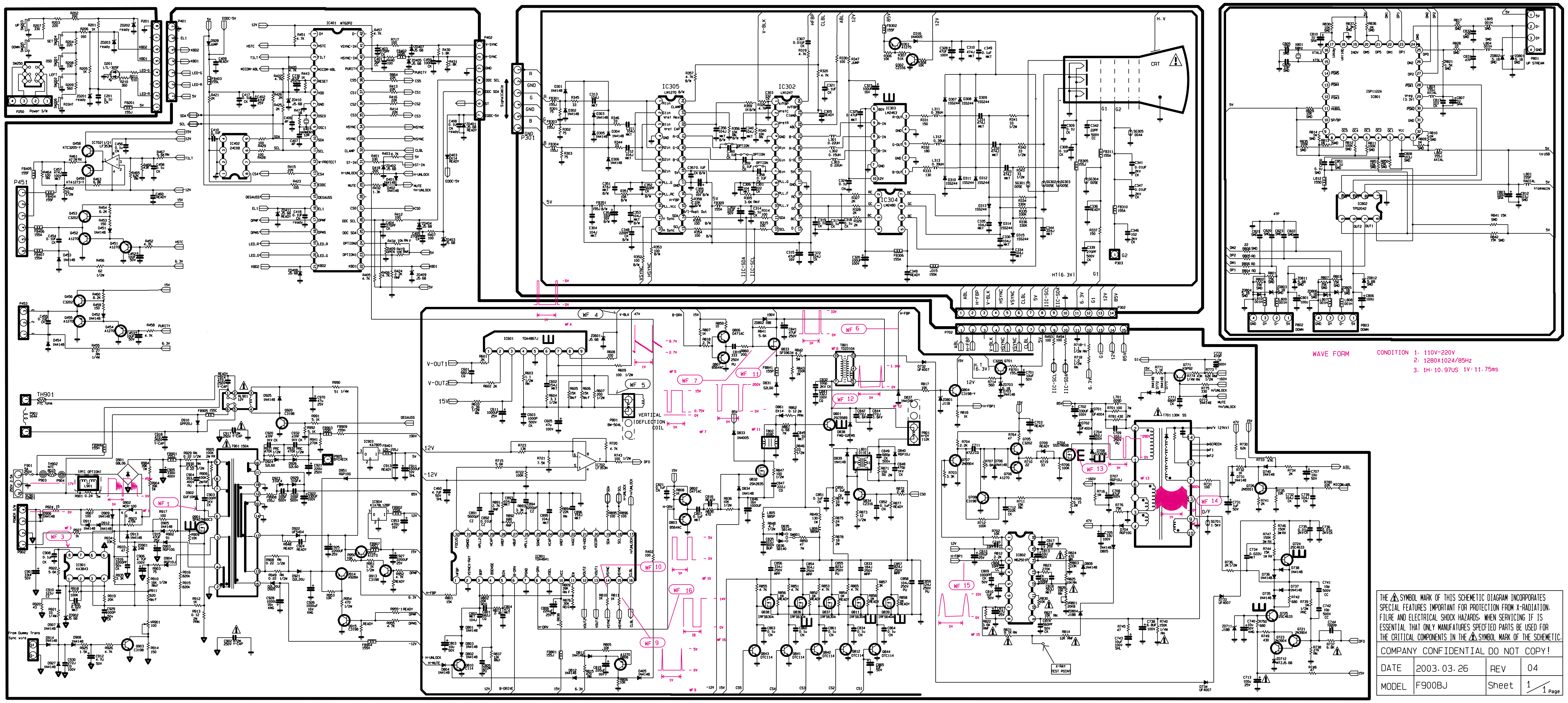
Block Diagram



(1) See calculation of f range.
(2) See Figs 22 and 23.

SCHEMATIC DIAGRAM

NOTICE
Since this is a basic schematic diagram.
The value of components and some partial connection are sucject to be changed for improvement without notice.

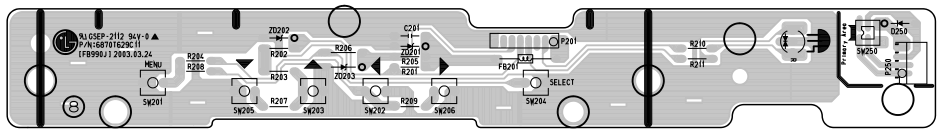


THE ⚠ SYMBOL MARK OF THIS SCHEMETIC DIAGRAM INCORPORATES SPECIAL FEATURES IMPORTANT FOR PROTECTION FROM X-RADIATION. FILRE AND ELECTRICAL SHOCK HAZARDS, WHEN SERVICING IF IS ESSENTIAL THAT ONLY MANUFATURES SPECFIED PARTS BE USED FOR THE CRITICAL COMPONENTS IN THE ⚠ SYMBOL MARK OF THE SCHEMETIC.

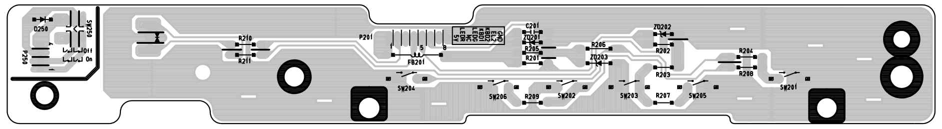
DATE	2003. 03. 26	REV	04
MODEL	F900BJ	Sheet	1 / 1 Page

PRINTED CIRCUIT BOARD

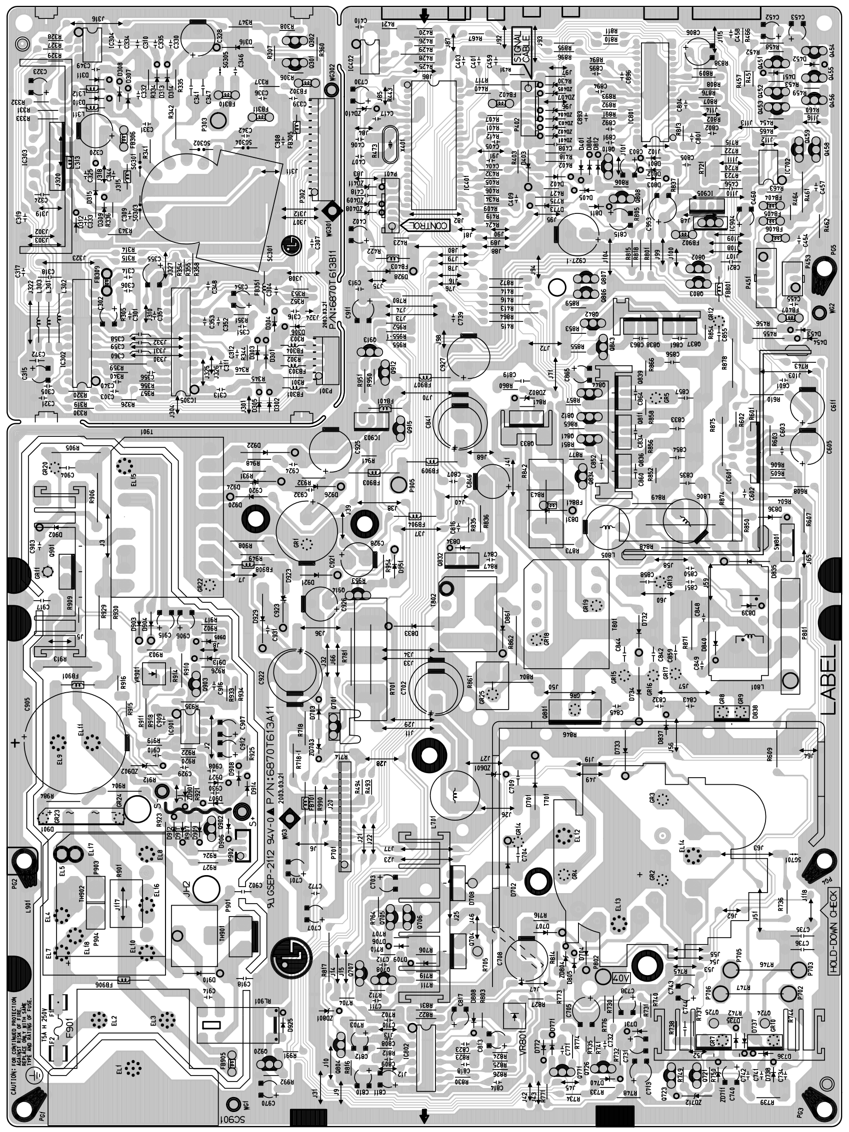
1. CONTROL BOARD (Component Side)



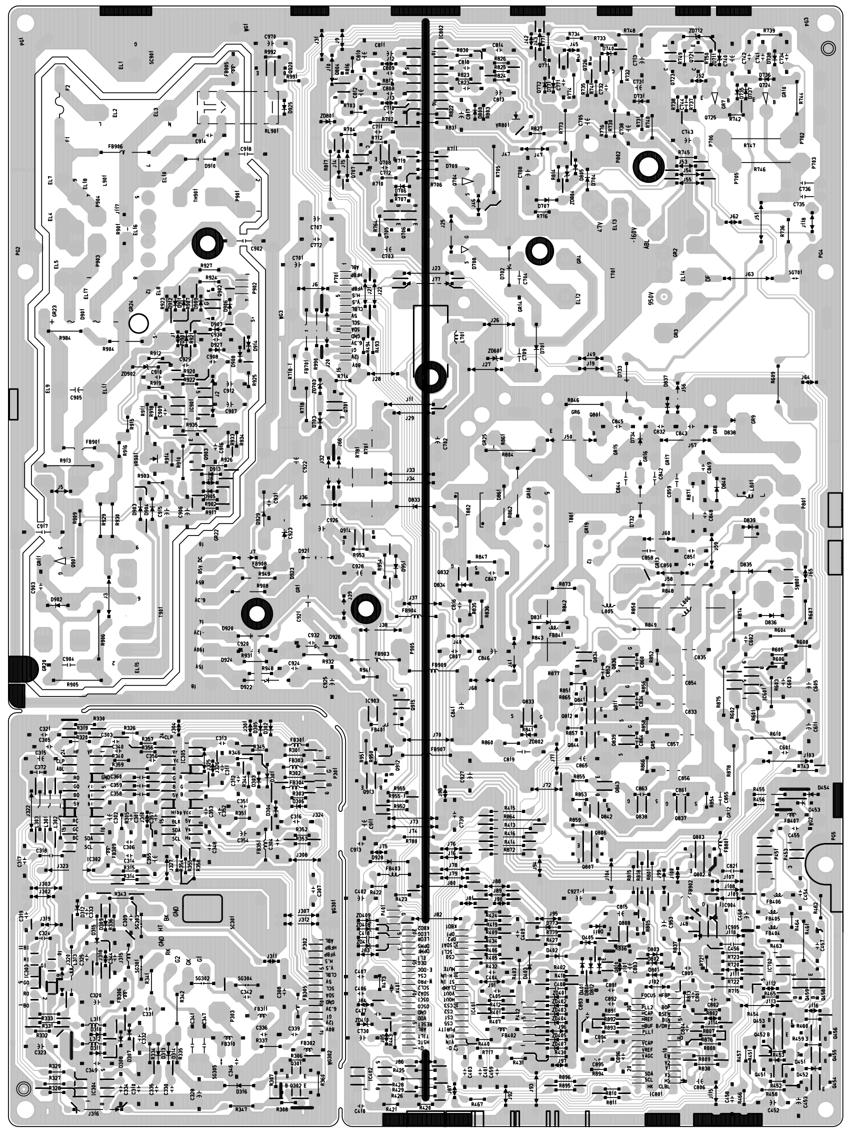
2. CONTROL BOARD (Solder Side)



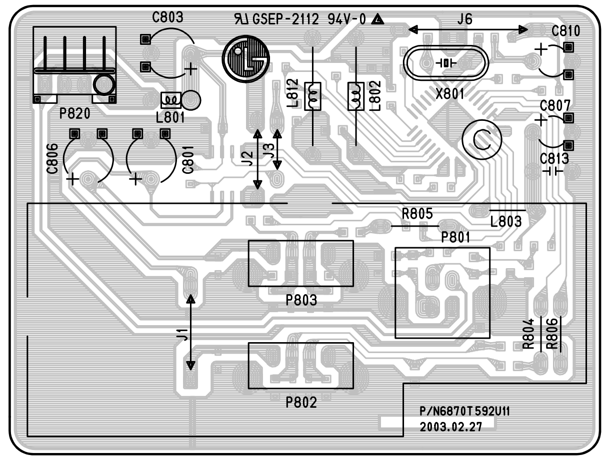
3. MAIN BOARD (Component Side)



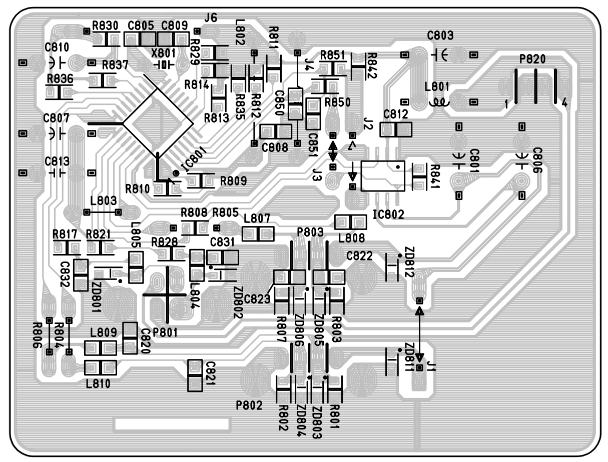
4. MAIN BOARD (Solder Side)



5. USB BOARD (Component Side)



6. USB BOARD (Solder Side)



Apr. 2003

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